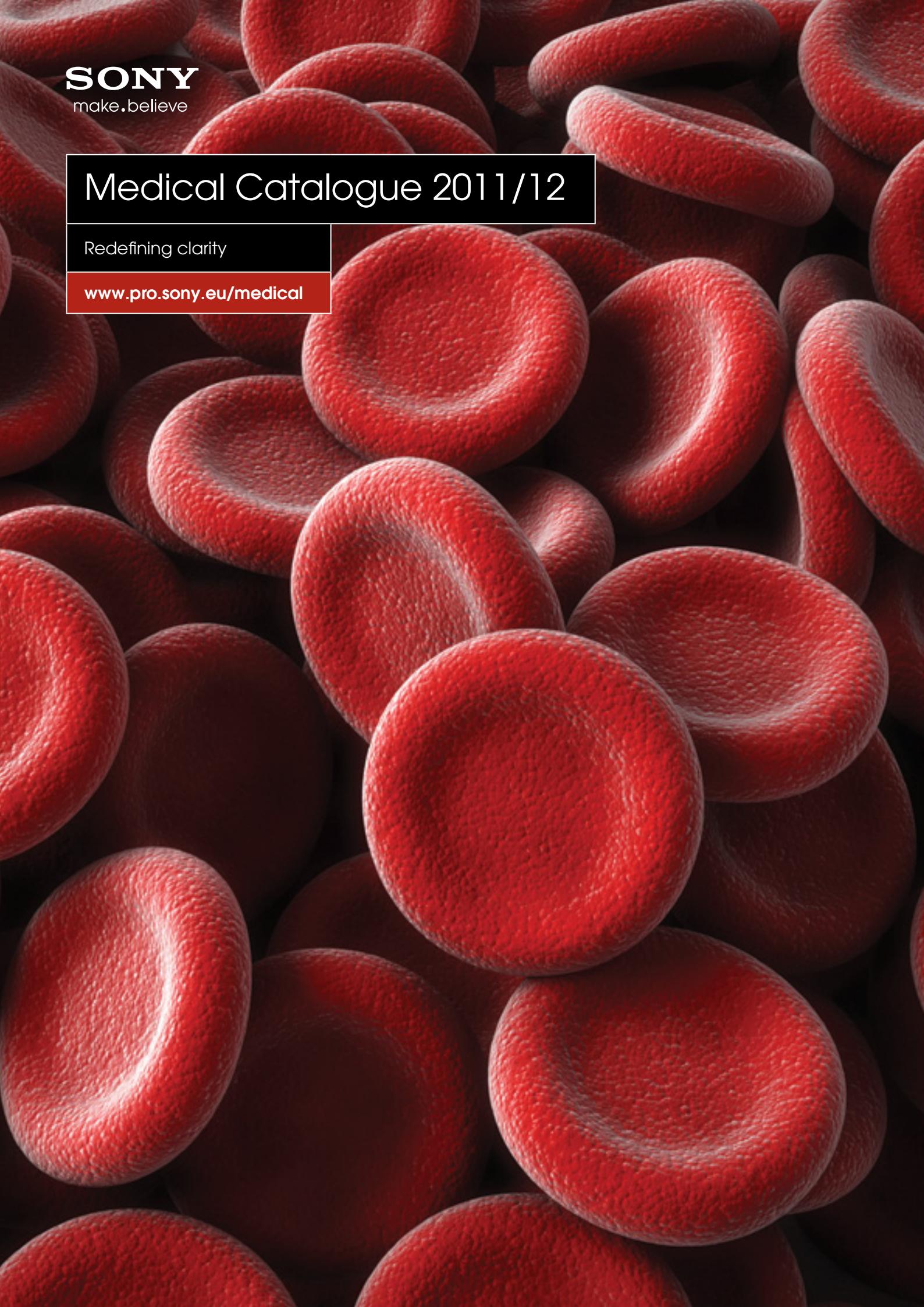


**SONY**  
make.believe

## Medical Catalogue 2011/12

Redefining clarity

[www.pro.sony.eu/medical](http://www.pro.sony.eu/medical)



# Redefining clarity

Sony Medical is focused on enabling clinicians achieve a clearer view of the human body. We are redefining clarity – with innovations including the first OLED medical monitor and 3D line-up. We continue to support the advancement of diagnosis and patient care.

Our dedicated marketing, product planning and engineering teams meet regularly with medical doctors and other healthcare professionals. This regular dialogue feeds crucial customer insights into all stages of our product development, enabling us to continually refine our expertise and deliver innovative solutions.

From the world's first OLED medical monitor to our leading 3D medical monitor, camera and recorder line-up, Sony Medical brings you a comprehensive range of standard-setting equipment.

As well as helping to shape modern surgical practice, we also remain committed to supporting cost-efficient workflows with the delivery of networks for storing, sharing and distributing digital data.

Over the years, Sony have been at the forefront of printing innovation. With this extensive heritage, we have continued to develop medical printers that fulfill the needs and requirements of the healthcare industry.

## **Cameras** – capturing clarity

Application-specific SD & HD medical cameras

- CCD Sensor Video Cameras
- CMOS Sensor Video Camera

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Versatile and efficient recording and storage solutions

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Medical monitors that ensure superior image quality

- LCD Monitors & Displays
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Dedicated medical printers for every application

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OLED: The new standard in medical imaging

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Delivering the sharpest detail in HD medical imaging

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# Cameras – capturing clarity

## Application-specific SD & HD medical cameras

Continuing to challenge the boundaries of medical imaging technology, we enable clinicians to capture the most precise digital images with our range of medical cameras.

Ensuring the most intricate details are captured with the clearest precision, our range extends from SD to HD video cameras. We provide application-specific solutions that capture clarity across fields as diverse and demanding as ophthalmology, neurosurgery, pathology, biomedical research and veterinary science.

### PMW-10MD



#### 1/2 inch 3CMOS HD Colour Video Camera

##### Suitable for: Surgical Microscopy

Unrivalled HD performance, groundbreaking technology and its 2-piece design combine to make the PMW-10MD the ideal solution for ultimate image quality in microscopic applications.

- > High sensitivity delivers detail in low light environments
- > Small, lightweight C-mount camera head for easy integration
- > On-board HD recording capability

##### Features

- > Incorporates 3-chip 1/2-inch type Exmor Full HD CMOS sensor
- > DVI-D and HD-SDI outputs
- > Two SxS Memory card slots



##### Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

### DXC-C33P



#### 1/3 inch 3CCD Colour Video Camera

##### Suitable for: Surgical Microscopy

The 2-piece compact design makes this model a perfect fit for space-limited applications, whilst offering great picture resolution and many useful features.

- > Ultra-small 3CCD remote camera head
- > High resolution
- > DV connection to compatible VTR

##### Features

- > Incorporates one of the smallest/lightest camera head units
- > High horizontal resolution of 800 TV lines
- > DV output allows image recording into iLINK interface-equipped VTR with no deterioration



Lens shown is optional

##### Product compliance

EN 60601-1, EN 60601-1-2

## DXC-390P

## 1/3 inch 3CCD Colour Video Camera



## Suitable for: Microscopy, Observation

Feature-rich and using a C-mount lens, this ExwaveHAD™ camera is ideal where picture accuracy and detail are essential.

- > High picture quality
- > Wide choice of available lenses from various manufacturers
- > Small and lightweight

## Features

- > ExwaveHAD™ technology provides excellent sensitivity and low smear levels
- > High horizontal resolution of 800 TV lines
- > Complies with the MDD when used with optional CMA-D2MD AC power supply

 Lens shown is optional

Product compliance  
EN 60601-1, EN 60601-1-2

## DXC-990P

## 1/2 inch 3CCD Colour Video Camera



## Suitable for: Microscopy, Observation

With so many functions, the DXC-990P is the perfect choice for a variety of applications. It incorporates ExwaveHAD™ technology which greatly improves camera sensitivity and reduces smear.

- > Superior picture quality
- > Advanced digital signal processing

## Features

- > ExwaveHAD™ technology provides excellent sensitivity and low smear levels
- > High horizontal resolution of 850 TV lines
- > Complies with the MDD when used with optional CMA-D2MD/CE AC power supply

 Lens shown is optional

Product compliance  
EN 60601-1, EN 60601-1-2



## Recorders – lasting clarity

## Versatile, workflow-efficient recording and storage solutions

Applying our deep expertise across recording, storage and network technology, our solutions ensure clinicians can rely on the clarity of their medical images for years to come.

The Sony Medical range of compact and versatile solutions deliver exceptional archive picture quality. They support workflow efficiency with powerful random access capability, plus enhanced security that protect patient data.



## DVO-1000MD



## Medical DVD Recorder

**Suitable for: Ultrasound, Endoscopy, Radiology, Surgery**

This DVD recorder has been designed specifically for use in a wide range of surgical and other healthcare environments. Compact, rugged and easy to use, it offers all the benefits of removable disc media.

- > DVD+RW Digital Recording
- > Easy to use operation

**Features**

- > Rewritable DVD+RW disc as recording media (highly re-usable, low-cost and wide interoperability)
- > High quality MPEG2 video recording (HQ/SP/LP mode available)
- > Quick recording and high reliability with back-up hard disk recording
- > RS-232C and USB remote control
- > Compact size & lightweight



## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

## HVO-1000MD



## HD Video Recorder

To make efficient use of the operating theatre and to drastically improve the way doctors use surgery images, the HVO-1000MD offers many recording advantages and makes a significant contribution to effective hospital data management.

- > High quality HD recording
- > Simultaneous recording on internal hard drive, DVD/Blu-ray Disc™ drive and USB slot
- > Easy to use operation

**Features**

- > Real-time distribution with a streaming function
- > Broad Support of media for data exchange
- > High quality HD recording (MPEG-4 AVC/H.264 compression)
- > Large capacity hard disc for long recording capability
- > Wide range of Interfaces
- > Network data transmission through FTP or CIFS
- > Pre-install Sony USB printer driver
- > Still and motion image capture



## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

## BZMD-1000\*

## DICOM Capture Station

**Suitable for: Endoscopy, Ultrasound, Radiology, Surgery**

The BZMD-1000 is the solution for HD still/video acquisition and DICOM file creation. With built-in touch-screen operation, capturing complex procedures, for medical records or education, is made simple.

- > All-in-one solution for multi-format procedure recording
- > Wide-ranging compatibility of inputs and outputs
- > DICOM MPEG2 compliant

**Features**

- > Records HD and SD video
- > Connects to DICOM and non-DICOM networks
- > Built-in DVD/Blu-ray Disc™ writer

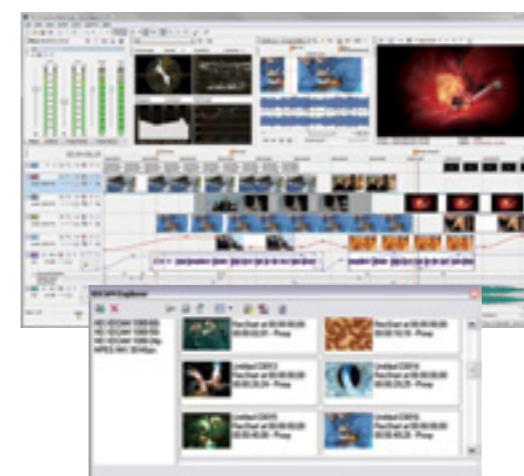
\* This product has been exclusively manufactured for Sony by Kontron.



## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

## Vegas Pro 10.0

**Suitable for: Ultrasound, Endoscopy, Urology, Radiology**

The Vegas™ Pro 10 collection offers an efficient and intuitive environment for professional video and broadcast production, as well as DVD and Blu-ray Disc™ authoring.

- > Precise editing tools
- > Superior audio control
- > Powerful Blu-ray Disc™ authoring

**Features**

- > Device explorer window
- > Improved interface and 3D editing functions
- > Vegas Pro 10 supports projects up to 4096 pixels by 4096 pixels
- > Enhanced window trimmer
- > Choice of layout
- > Pre-built templates



## Monitors – clarity that displays every detail

### Medical monitors that ensure superior image quality

Superior image quality is not a luxury, it is a clinical necessity for informing critical decisions. For surgeons about to make an incision, the ability to distinguish clearly between different tissue types is paramount.

Having pioneered the development of LCD technology that delivers outstanding picture quality, we have also created an extensive range of dedicated medical HD and SD LCD monitors. Providing a choice of resolutions and screen sizes from 15 to 32 inch, these lightweight monitors have been specifically designed for medical environments. Delivering still and moving images with excellent image contrast plus stable and accurate colour reproduction, they give clinicians the detailed clarity and pinpoint precision they need.

Monitors

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LMD-1530MD

15 inch Medical LCD Monitor



#### Suitable for: Microscopy, Endoscopy

This high resolution LCD monitor with superb picture quality and DC power supply is ideal for Surgery Arm Mount applications.

- > Full range of SD inputs & HDMI
- > IPS LCD panel with WXGA (1280x768) resolution
- > Wide viewing angle

#### Features

- > Anti-reflection (AR) coated protection panel
- > VESA mounting standard compliance
- > Key inhibit function
- > Parallel control interface
- > Vesa mounting compatibility



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

LMD-1951MD

19 inch Medical LCD Monitor



#### Suitable for: Microscopy, Endoscopy

This high resolution LCD monitor with superb picture quality and DC power supply is ideal for Surgery Arm Mount applications.

- > LED backlight for high contrast and brightness
- > Power via AC adaptor or direct DC in
- > 10 bit signal processing for enhanced picture quality

#### Features

- > Panel Resolution SXGA (1280X1024 pixels)
- > Accepts signals ranging from SD to HD video, analogue VGA to SXGA PC input, as well as DVI-D input
- > 5 types of optional input adaptors are offered for use in two rear slots
- > Parallel and serial remote control ports as standard
- > User Memory provides the capability of saving 20 patterns of memory settings
- > VESA mounting standard



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

LMD-2110MD

21 inch Full HD Medical Monitor



#### Suitable for: Microscopy, Endoscopy

Offering superb picture quality, the feature-rich LMD-2110MD is ideal for video endoscope cart installation.

- > Versatile Video and PC inputs ranging from SD to HD
- > X-Algorithm for best moving picture quality
- > Improved picture stability when exposed to high electromagnetic fields in medical environments, i.e. electrical knife

#### Features

- > Resolution 1920 x 1080 pixels
- > Accepts signals ranging from SD to HD video, analogue VGA to SXGA PC input, as well as HDMI input
- > HD-SDI can be accepted by additional adaptor
- > Parallel and serial remote control ports as standard
- > User Memory provides the capability of saving 20 patterns of memory settings
- > VESA mounting standard



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

Cameras

Recorders

Monitors

## LMD-2451MD



## 24 inch Medical Full HD LCD Monitor

The innovative LMD-2451MD has Advanced Image Processing Technology and enables physicians to see still and moving images with accurate, HD clarity and pinpoint precision.

- > Exceptional HD monitor with class-leading resolution
- > Original ChromaTRU colour processing technology
- > Superb quality WUXGA panel
- > DVI loopthrough possible with BKM-256DD board

## Features

- > Resolution 1920 x 1200 pixels
- > Accepts almost any signal from SD to HD video
- > Complies with the 100mm VESA mounting standard
- > Multi-input capability (HD and SD signals from both analogue and digital sources)
- > Selectable Gamma curves
- > Key inhibit function



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## PVM-2551MD



## Medical OLED Monitor

The Sony PVM-2551MD is the first medical monitor with OLED technology and displays images in outstanding brilliance with in-depth detail.

- > Wide dynamic range – accurate colour reproduction in dark areas of the displayed image
- > Quick response – virtually no motion blur
- > Wide colour gamut – reproduces small differences in colour

## Features

- > 1920 x 1080 Full HD resolution
- > Variety of scan and display modes
- > Variety of Gamma curve settings
- > Noise filter
- > Direct input selection
- > Key inhibit function
- > Easy-clean flat-surface panel
- > Round shaped bezel
- > Installation-friendly cabling
- > VESA mounting compatibility



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## LMD-3250MD



## 32 inch Medical Full HD LCD Monitor

Utilising the latest fast-responding LCD panels, these monitors offer pictures with high brightness and contrast and a wide (178°) viewing angle.

- > 32 inch Full HD (1920 x 1080) 10-bit LCD panel
- > Original ChromaTRU colour processing technology
- > Multi-input capability (HD and SD signals from both analogue and digital sources)

## Features

- > 10 bit signal processing for enhanced picture quality
- > 2 Gamma curves: DICOM or CRT 2.2
- > Multi-display modes, including Picture-out-Picture and Side-by-Side split screen
- > Mirror image function
- > User Memory: up to 20 different custom picture settings
- > Easy-clean smooth surface and fluid-resistant structure



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## LCD public displays for general purpose

Combining extensive expertise across professional display technology with advances in LCD panel performance and leading HD image resolution, our public display screens provide the optimum combination of high-performance picture clarity and stylish presentation.

Delivering Full HD quality with high brightness, the screens feature DICOM

Gamma mode, ensuring they can be used for a range of applications within medical environments. They bring superb quality to telemedicine and distance learning, as well as radiology second viewings.

The screens are also ideal for digital signage applications, such as reception/waiting area information and entertainment messaging. The sleek, slim

bezel design, rear control buttons and invisible speakers provide high-impact stand-out in any setting. Added to which, the displays provide the flexibility and durability to meet the requirements of system integrators with a range of inputs (RGB, DVI, HDMI, HD-SDI/SDI) plus monitor control and streaming receiver.

## FWD-S47H1



## 47 inch Full HD LCD Public Display

**Suitable for Second Viewing Radiology, Training Rooms, Telemedicine, Distance Learning**  
Sony slim-bezel professional public displays provide brilliant and dynamic messaging in Full HD.

- > 1080 Full HD – high resolution of 1920 x 1080
- > High brightness – allowing for use in bright light conditions
- > DICOM Gamma – for picture viewing in medical applications
- > Wall mountable

## Features

- > High-performance Scalar
- > HDMI (optional), DVI/HDCP, HD-SDI (optional) inputs
- > RS-232C and Control S (optional)
- > Network Port
- > Option Slot
- > Picture-in-Picture
- > Picture-and-Picture
- > On/Off Timer
- > Conference Mode



Product compliance  
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

## FWD-S42H1



**Suitable for Second Viewing Radiology, Training Rooms, Telemedicine, Distance Learning**  
Sony slim-bezel professional public displays provide brilliant and dynamic messaging in Full HD.

- > 1080 Full HD – high resolution of 1920 x 1080
- > High brightness – allowing for use in bright light conditions
- > DICOM Gamma – for picture viewing of radiology images in referral/reference quality
- > Wall mountable

## Features

- > High-performance scalar
- > HDMI (optional), DVI/HDCP, HD-SDI (optional) inputs
- > RS-232C and Control S (optional)
- > Network port
- > Option slot
- > Picture-in-Picture
- > Picture-and-Picture
- > On/Off timer
- > Conference mode



Product compliance  
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B



## Printers – printing clarity

### Dedicated medical printers for every application

Designed to ensure the best quality permanent record of photographs, scans and other captured images, our range of dedicated medical printers provides the optimum solution for every application.

Sony printing technology provides superb colour reproduction and exceptional resistance to fading, supporting accurate and consistent diagnosis. Our diagnostic printers offer DICOM-compliant network

capability to give immediate access to various modalities and archive systems across hospitals or an entire region.

With future-proof quality, consistency, reliability and speed assuring years of trouble-free use in a wide range of medical environments, Sony Medical printers and diagnostic imagers ensure visual records that are as clear and precise as they are permanent.

### UP-DR80MD



#### Digital Colour Printer

**Suitable for:** Ultrasound, Endoscopy, Microsurgery, Microscopy, Ophthalmology, Pathology  
Compact and stylish A4 dye-sublimation colour printer with easy to use front operation.

- > A4 colour
- > USB 2.0 interface
- > Superior self-laminating roll media

##### Features

- > Photo-realistic quality prints with Sony dye sublimation printing technology offering optimal protection against fading, finger prints and water-based liquids
- > Compact design for trolley applications
- > A4 size colour print in approximately 76 seconds
- > Advanced grey balance and colour balance adjustment



Print Media:  
UPC-R80MD

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

### UP-D25MD



#### Digital Colour Printer

**Suitable for:** Endoscopy, Microsurgery, Microscopy, Pathology, Ophthalmology, Ultrasound  
Compact and lightweight in design, the front LCD display enables easy operation and colour adjustment and is ideal for use in a wide range of medical applications.

- > A6 colour
- > USB 2.0 interface
- > Compact size

##### Features

- > Photo-realistic quality prints with Sony dye sublimation printing technology
- > Resolution of 423 dpi for high picture quality
- > A6 size colour print in approximately 19 seconds
- > Supports both self-laminating UPC-24 SA/LA and non-laminating UPC-21 S/L media
- > Advanced grey balance and HSV-colour balance adjustment, including preview window in driver



Print Media:  
UPC-21S | UPC-21L | UPC-24SA | UPC-24LA

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

### UP-25MD



#### Colour Video Printer

**Suitable for:** Endoscopy, Microsurgery, Microscopy, Pathology, Ultrasound  
Compact and lightweight in design, the front LCD display enables easy operation and colour adjustment and is ideal for use in a wide range of medical applications.

- > A6 colour
- > RGB, Video & S-Video Interface
- > Compact size

##### Features

- > HDTV (HD television) signal support accepting both 1080i and 720p signal types
- > Photo-realistic quality prints with Sony dye sublimation printing technology
- > Resolution of 423 dpi for high picture quality
- > A6 size colour print in approximately 19 seconds
- > Supports both self-laminating UPC-24 SA/LA and non-laminating UPC-21 S/L media
- > RGB and advanced HSV-colour balance adjustment features



Print Media:  
UPC-21S | UPC-21L | UPC-24SA | UPC-24LA

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A



## UP-D55



## Digital Colour Printer

## Suitable for: Endoscopy, Microsurgery, Microscopy, Pathology, Ophthalmology, Ultrasound

The optimum choice for many medical applications ideal for a wide range of scientific, industrial and engineering uses, the UP-D55 provides working efficiency for high-performance printing.

- > A5 colour
- > USB 2.0 interface
- > Ultra compact

## Features

- > Dye sublimation printing for superb print quality at 379 dpi resolution
- > A5 size colour prints provided in approx. 20 seconds
- > Compact size enabling it to fit into limited space

Print Media:  
UPC-55

## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-990AD



## Black &amp; White Video and Digital Hybrid Printer for Blue Film and Paper

## Suitable for: Dental X-Ray, C-Arm

The UP-990AD is ideal for simple image printing from mobile C-arm or other x-ray imaging equipment.

- > A4 monochrome
- > Composite video interface and USB 2.0
- > Thermal paper and Blue Film

## Features

- > Thermal hybrid-interface graphic printer with 8 bit / 256 steps of grey level
- > High resolution of 325 dpi
- > High-speed printing of 8 seconds
- > Multiple print modes; standard, side and 2, 4 and 6-split print of different images
- > Auto paper cut function

Print Media:  
UPP-210SE

## Print Media:

UPP-210SE | UPP-210HD | UPT-210BL

## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-55MD

## Colour Video Printer

## Suitable for: Endoscopy, Microsurgery, Microscopy, Pathology

Designed for heavy-duty use, offering superb reliability and durability, this colour video printer is ideal for a host of medical applications.

- > A5 colour
- > RGB, Video & S-Video interface
- > Ultra compact
- > Easy image storage of printed images on USB flash memory ("USB Stick")
- > Multiple print modes; standard and 2, 4, 8 split print of different images

## Features

- > HDTV (HD television) signal support accepting both 1080i and 720p signal types
- > Resolution of 379 dpi for photo-quality prints
- > A5 size print in approx. 20 seconds
- > Compact size and simple front operation

Print Media:  
UPC-55

## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-970AD



## Suitable for: Dental X-Ray, C-Arm

Analogue and digital A4 black & white printer for medical, scientific and other applications.

- > A4 monochrome
- > Composite video interface and USB 2.0
- > Thermal paper

## Features

- > Thermal hybrid-interface graphic printer with 8 bit / 256 steps of grey level
- > High resolution of 325 dpi
- > High-speed printing of 8 seconds
- > Multiple print modes; standard, side and 2, 4 and 6-split print of different images

Print Media:  
UPP-210HD

## Print Media:

UPP-210SE

## Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A



## UP-D897

## Digital Black &amp; White Printer



**Suitable for:** Ultrasound, Endoscopy, Microsurgery, Microscopy, Pathology, Dental X-ray

The industry standard medical digital A6 black & white printer.

- > A6 monochrome
- > USB 2.0 interface

## Features

- > 325 dpi resolution and 8 bit / 256 steps of grey level for high picture quality
- > High-speed printing of approximately 2 seconds
- > Multiple print modes available for a variety of applications



Print Media:

UPP-110HG UPP-110HD UPP-110S

Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-897MD

## Black &amp; White Video Printer



**Suitable for:** Ultrasound, Endoscopy, Microsurgery, Microscopy, Pathology, Dental X-ray

The industry standard medical analogue A6 black & white printer.

- > A6 monochrome
- > Composite video interface
- > Compact and lightweight design

## Features

- > 325 dpi resolution and 8 bit / 256 steps of grey level for high picture quality
- > Hard copy prints in approximately 2 seconds (aspect ratio 4:3)
- > Selectable 4:3 or 1:1 aspect ratio
- > Automatic selection of EIA or CCIR video signal



Print Media:

UPP-110HG UPP-110HD UPP-110S

Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-D72XR

## Black &amp; White Digital Printer



**Suitable for:** Dental X-Ray, C-arm

The UP-D72XR provides photo-quality output and has been specifically designed for use with X-ray systems, such as mobile C-arm units and dental X-ray systems.

- > 8"x10" monochrome
- > USB Interface
- > Thermal paper and Blue Film

## Features

- > High resolution of 300 dpi
- > Photo-quality prints with Sony direct thermal printing technology
- > High-speed printing of approximately 45 seconds
- > Precise Gamma-curve-adjustment capability



Print Media:

UPF-735BL UPP-725

Product compliance

EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## Diagnostic clarity

## Dedicated radiology imagers

As one of the most critical disciplines in diagnosing health problems, radiology demands the ultimate in image clarity, quality and reliability. Being able to make a quick and accurate diagnosis from scans and X-rays remains an essential step in ensuring the best possible care for patients.

The Sony Medical specialist range of digital radiology imagers is designed to meet the precise needs and overcome

the specific challenges of medical professionals. Unlike large all-in-one imagers which feature a multitude of diverse capabilities, our imagers are small and personal – with a clear focus on maximising performance whilst minimising space and wastage.

Our imagers are dedicated for specialist radiology applications and designed for both Blue Film and monochrome paper imaging as well as colour paper

imaging. You pay only for what you need and benefit from the lowest possible capital investment and running costs.

As you would expect, our digital radiology imagers combine excellent reliability with high-speed on-demand imaging, market-leading image clarity and compact styling. All of which contributes to improved workflows and, ultimately, the efficacy of diagnosis.

## UP-DF750

## Multi-format Digital Diagnostic Film Imager



**Suitable for:** Mammography, CR/DR, Computed Tomography, Magnetic Resonance

The UP-DF750 Digital Film Imager features superior image quality through high resolution and high density printing.

- > Mammography compatible
- > DICOM Interface
- > World's smallest footprint in its class

**Features**

- > Superior image quality through 604 dpi resolution and 14 bit processing
- > Support for 10"x12" and 8"x10" Sony Mammography Blue Film (Dmax=3.8)
- > Support for 14"x17", 11"x14", 10"x12" and 8"x10" Sony Blue Thermal Film (Dmax=3.2)
- > High-speed imaging at a rate of up to 90 sheets of film per hour (8"x10")
- > Fully flexible film trays accept any film size and type
- > Large 3.8" graphic display with adjustable orientation
- > Vertical installation capability for saving space
- > Quick warm-up time of less than 2 minutes
- > 40 Gamma curves for ultimate image quality adjustment versatility
- > New advanced parameterised magnification types and DICOM configuration utility



Print Media:

UPT-517BL UPT-514BL UPT-512BL

UPT-510BL UPT-M712BL UPT-M710BL

Product compliance

EN 60601-1, EN 60601-1-2, R&amp;TTE, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-DF550

## Multi-format Digital Diagnostic Film Imager



**Suitable for:** Computed Tomography, Magnetic Resonance, CR/DR

The UP-DF550 Digital Film Imager for all DICOM compliant general radiology applications.

- > Multi-format Diagnostic Film Imager
- > DICOM interface
- > World's smallest footprint in its class

**Features**

- > Support for 14" x 17", 11" x 14", 10" x 12" and 8" x 10" Sony Blue Thermal Film
- > High resolution of 320 dpi and 12 bit processing
- > High-speed printing at a rate of up to 85 sheets of film per hour (8"x10")
- > Vertical installation capability for saving space
- > 20 Gamma curves for advanced image quality adjustment
- > Quick warm-up time of less than 2 minutes



Print Media:

UPT-517BL UPT-514BL

UPT-512BL UPT-510BL

Product compliance

EN 60601-1, EN 60601-1-2, R&amp;TTE, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-D77MD

## DICOM Colour Imager



**Suitable for:** Computed Tomography (CT), Nuclear Medicine, PET-CT, Magnetic Resonance Imaging (MRI), PACS Endoscopy, Ultrasound

The UP-D77MD for all DICOM compliant medical applications requiring high quality colour or monochrome paper prints.

- > A4/Letter size colour paper
- > DICOM interface
- > Compact and space-saving design

## Features

- > High resolution of 300 dpi
- > Photo-realistic superior quality prints with Sony self-laminating dye sublimation printing technology offering optimal protection against fading, finger prints and water-based liquid
- > A4 media featuring a maximum image size of 203 x 272mm
- > High-speed printing of approximately 85 seconds (A4)
- > Front-loading operation for installation in the tightest spaces
- > Easy colour tuning with 25 versatile colour pre-sets
- > Advanced colour tuning via Service Tool



Print Media:

UPC-70

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## UP-D74XRD

## Multi-media Dual Interface Digital Imager



**Suitable for:** Computed Tomography, Magnetic Resonance, CR/DR, Dental X-Ray

The UP-D74XRD is a compact and high-speed hybrid interface Imager, suitable for high-end reference film and paper printing.

- > Thermal paper and Blue Film
- > World's smallest footprint in its class

## Features

- > Support for 8"x10" Inch Paper or Sony Blue Thermal Film
- > Front loading operation
- > Supporting USB 2.0 and DICOM Interface
- > High-speed printing at a rate of up to 90 sheets of film per hour
- > Quick warm-up time of less than 2 minutes
- > High resolution of 300 dpi with 9 bit greyscale printing
- > Super silent print engine



Print Media:

UPT-736BL

UPP-725

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## Print media at a glance

## Delivering clarity through optimum print quality

Your choice of medical print media is vital in achieving durable, long-term image quality. To ensure the optimal performance and longevity of Sony medical printers, you need to choose Sony print media. Using media of lower grade not only results in poorer image quality, but is also likely to result in early printer failure and higher maintenance costs.

Specifically designed to match the mechanical characteristics of Sony medical printers, Sony print media guarantees the hassle-free delivery of high quality images by giving you:

- Superior print quality
- Accurate grey-scale and colour reproduction
- Head-matching performance
- Anti-electrostatic layer
- Minimal curling
- Advanced tearing properties
- High humidity and heat resistance

Size	Description	Comments	Model	Prints per pack or length	Printers			Number of rolls or packs	
					UP-DF750	UP-DF550	UP-DF500	Per subcarton	Per mastercarton
14x17"	Blue Thermal Film	For general Radiology	UPT-517BL	125	●	●	●		4
11x14"	Blue Thermal Film		UPT-514BL	125	●	●			4
10x12"	Blue Thermal Film		UPT-512BL	125	●	●			4
8x10"	Blue Thermal Film		UPT-510BL	125	●	●			4
10x12"	Blue Thermal Mammography Film	For Mammography application	UPT-M710BL	125	●				4
8x10"	Blue Thermal Mammography Film		UPT-M712BL	125	●				4
8x10"	Blue Thermal Film		UPT-736BL	100		●			5
8x10"	Blue Thermal Film		UPT-735BL	100			●		5
8x10"	Thermal Printing Paper		UPP-725	100		●	●		5
A4	Self-laminating Colour Printing Pack		UPC-770	72	●	●			5
A4	Self-laminating Colour Printing Pack		UPC-R80MD	50x2			●		4
					UP-990AD		UP-970AD		
A4	Blue Thermal Film (Type III)		UPT-210BL	12.5m	●			5	20
A4	Thermal Printing Paper (Type II: High Density)		UPP-210HD	25m	●		●	5	20
A4	Thermal Printing Paper (Type I: High Quality)		UPP-210SE	25m	●		●	5	20
					UP-55MD/D55				
A5	Colour Printing Pack		UPC-55	100x2		●			5
					UP-20/21MD/D23MD	UP-25MD/UP-D25MD			
A6	Colour Printing Pack		UPC-21L	50x4	●		●		6
A6	Colour Printing Pack		UPC-21S	80x3	●		●		6
A6	Self-laminating Colour Printing Pack		UPC-24LA	40x4			●		6
A6	Self-laminating Colour Printing Pack		UPC-24SA	60x3			●		6
					UP-897MD/D897				
A6	Thermal Printing Paper (Type V: High Glossy)		UPP-110HG	18m		●		10	100
A6	Thermal Printing Paper (Type II: High Density)		UPP-110HD	20m		●		10	100
A6	Thermal Printing Paper (Type I: High Quality)		UPP-110S	20m		●		10	100

All print quantity numbers are measured in default setting.  
All non-metric weights and measures are approximate.



# OLED – innovating clarity

## The new standard in medical imaging

Setting new standards in clarity once again, Sony has created the world's first dedicated medical monitor to feature our unrivalled Organic Light-Emitting Diode (OLED) technology: the PVM-2551MD.

Enabling clinicians to see images in the highest contrast ratio ever – with no picture delay – this groundbreaking 24.5 inch\* medical monitor delivers the ultimate black reproduction for ideal luminance in light and dark areas. Providing the most realistic accuracy for surgical interventions and screening endoscopies, this breakthrough in medical imagery ensures every detail is visible in perfect clarity.

\* Viewable area, measured diagonally.

OLED

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Cameras

Recorders

Monitors

Printers

OLED



### Wide dynamic range

#### Accurate colour reproduction in dark areas of the displayed image

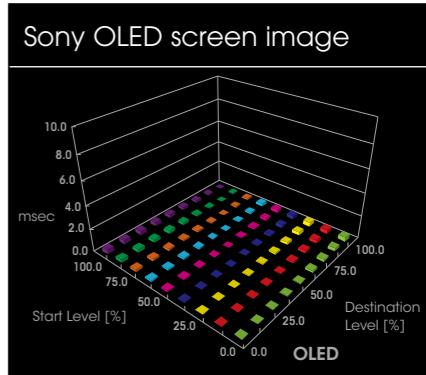
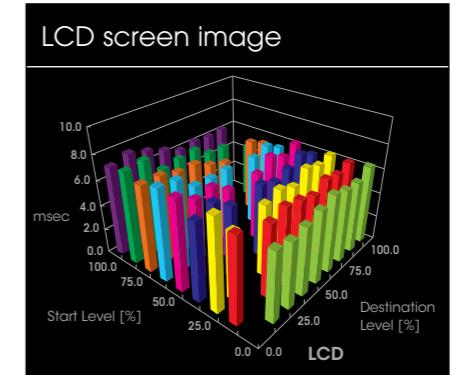
Thanks to Sony TRIMASTER EL technology, the Sony OLED monitor is capable of reproducing pure black, faithful to the source signal. It provides superb colour reproduction, especially for dark images. This enables medical

professionals to observe very subtle details in each image. For example, the faint colour differences of tissue under low-light conditions such as blood vessels, membrane and fat, are correctly reproduced.

### Quick response

#### Virtually no motion blur

Because the OLED electroluminescent layer inherently responds to any electrical current input, it emits light with virtually no delay. It therefore achieves superb quick response performance for fast moving images. This efficient blur-free, fast response time is beneficial for a variety of critical medical applications, such as rigid endoscopic surgery and flexible endoscope investigation.

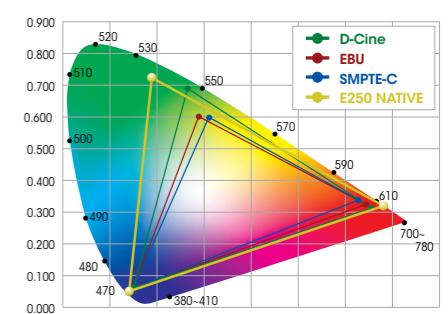


### Wide colour gamut

#### Reproduces small differences in colour

Sony OLED technology displays the largest colour range of any Sony monitor previously offered. The Sony micro-cavity structure uses an optical resonance effect in combination with accurate colour filters to calibrate and stabilise RGB colour accuracy.

This combination is also effective in reducing ambient light reflection, and consequently deep colour reproduction can be achieved with virtually no degradation, particularly in bright environments.



PVM-2551MD

Medical OLED Monitor



With its exceptional picture quality and medical-friendly design, the PVM-2551MD ushers in a new era of exceptional medical monitoring.

The PVM-2551MD features the newly developed dedicated OLED processor and establishes a new, improved standard of critical-image monitoring.

Sony innovative OLED technology delivers deep black, high-contrast, accurate colour reproduction and quick response times with virtually no motion blur.

In addition, the PVM-2551MD employs a high-performance noise filter which reduces effects on the monitor image that typically occur when an electrosurgical knife is used during surgery.

The PVM-2551MD complies with the 100mm hole spacing VESA mounting standard, making it ideal for use with a variety of medical installations.



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A



## HD - precision clarity

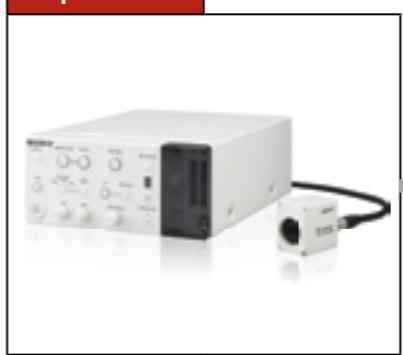
### Delivering the sharpest detail in HD medical imaging

Having pioneered the development of HD, Sony expertise underpins our HD medical workflow. Whilst ensuring precision clarity at every stage, our superior quality medical imaging bridges the physical gap between doctor and patient, helping to improve the quality of diagnosis and care.

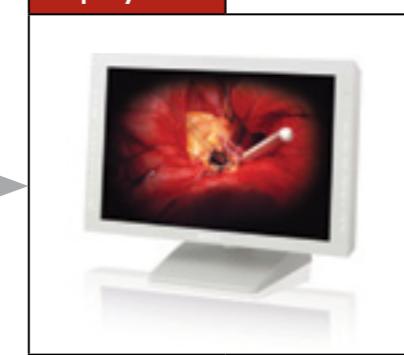
With x4 the resolution of SD technology, Sony HD technology also aims to maximise the academic benefits for colleagues and medical students. Our HD images offer a dramatic increase in the sharpness of anatomical detail, providing clarity and pinpoint precision for all medical professionals.



#### Capture



#### Display



#### Record



#### Archive



#### Distribute



#### Print



You can rely on the leader in medical imaging technology for ultra compact cameras that capture the most intricate detail with advanced HD clarity.

Now professionals and students can all benefit from a clearer picture of surgical procedures with displays that show the different colours of blood and distinguish between different types of tissue.

Compact, versatile recording solutions incorporating patient data while delivering long-lasting picture quality,

random access capability and enhanced security that incorporates patient data.

As the unrivalled experts in networked video and media management, we deliver complete control of all digital data for more tailored teaching and colleague collaboration.

Purpose-built, reliable technology with superb colour reproduction and exceptional durability to assist accurate and consistent diagnosis.



Workflow-friendly, cost-efficient, dependable and secure solutions with the capacity to store and share the massive and continually increasing volume of digital medical data.

The highest image and sound quality for more immersive group teaching and colleague collaboration, sharing HD digital still and moving images across campuses and around the world.

## Perception and discrimination

Everyone knows the closer you are to something, the more detail you see. The human eye can discriminate detail within about 1 minute of arc (MOA). This is the equivalent to being able to see 1mm lines from about 3½ metres away.

Therefore the larger the monitor or viewing screen, or the nearer you sit to it, the more detail you see. The ideal size of screen or viewing distance, is when the screen's line structure is just imperceptible. If you sit any nearer or the screen is any larger, the image begins to break up as you see the

individual pixels. Too far away, or too small a screen, and you cannot see all the image's available detail. This is why our HD line-up is so important to medical practitioners: when it comes to a patient's health, no detail is too small.

## Pixels and resolution

### SD pixels and resolution

The resolution of 625 line SD television (PAL) is 720 x 576 pixels, or 414,720 pixels in total (shown below). This is shown as a 4:3 image. PAL pixels are therefore not square but slightly tall.

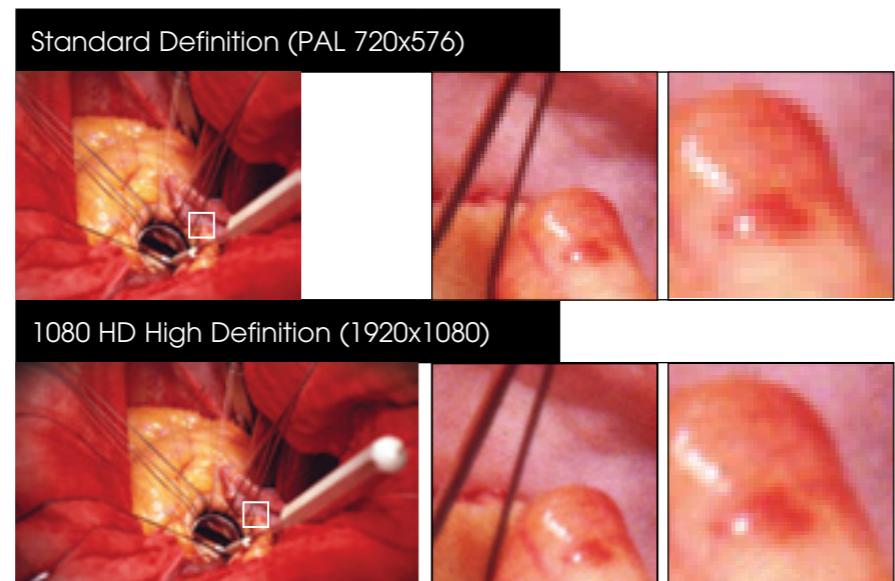
### HD pixels and resolution

The resolution of 1080 HD is 1,920 x 1,080 pixels, or 2,073,600 pixels in total (shown below). The resolution of 720 HD is 1280 x 720 pixels, or 921,600 pixels. Both 1080 HD and 720 HD are a true 16:9 image with square pixels.

Comparing PAL with 1080 HD. In comparison both images are made the same height.

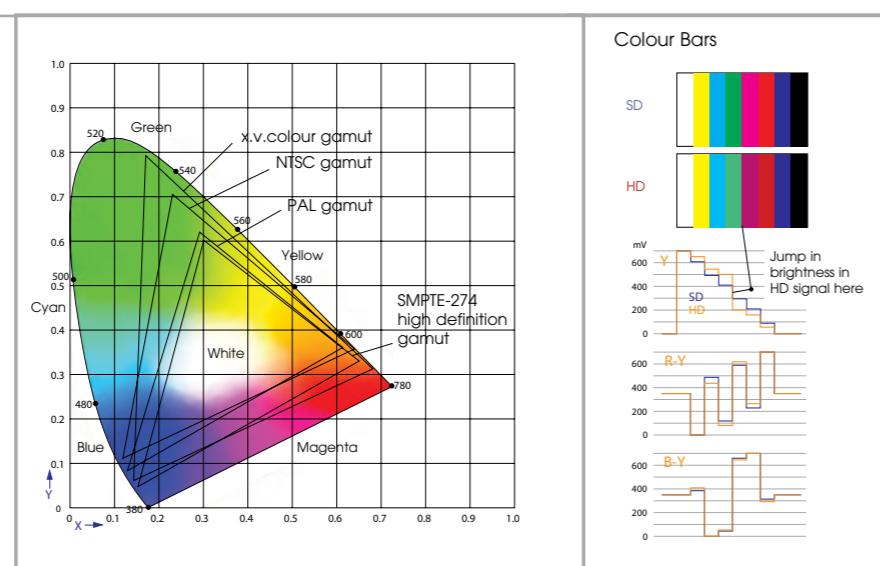
### Comparing SD and HD

There are about 5 times as many 1080 HD pixels as PAL television. There are just over twice as many 720 HD pixels as PAL television. The 4:3 portion of a 1080 HD image is 1,440 x 1,080 or 1,555,200 pixels. The same portion of a 720 HD image is 960 x 720 or 691,200 pixels. If both images are displayed at the same height, each 1080 pixel is a little over the size of a PAL television pixel. Each 720 pixel is 2/3 the size of a 625 line television pixel.



## HD and colour

HD television offers a new colour space with a redefined Y. For professionals, there is a jump in brightness in the colour bars standard test signal between green and magenta. The new standard also extends this gamut even further for selected HD equipment.



## HVO-1000MD

### Full HD Hard Disc Video Recorder



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

## LMD-2451MD

### 24 inch Medical LCD Monitor



\*viewable area, measure diagonally

Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

## PMW-10MD

### The First Full HD Medical Certified Camera from Sony



Suitable for surgical microscopy and endoscopy, the first Sony HD medical camera features groundbreaking technology for the ultimate image quality.

- Superior quality, highly compact camera head
- New high-performance, ½" Exmor™ Full HD 3CMOS imager
- 1920 x 1080 resolution and 2.2 mega pixels
- Exclusively designed, compact and lightweight ½" C-mount prism assembly
- Excellent picture quality with low power consumption: F10 sensitivity, 54dB S/N ratio and 450% dynamic range



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

**3D**

## 3D – the new dimension in clarity

### Adding spatial orientation with 3D medical imaging

Continuing to deliver pioneering innovation through technical advances, Sony Medical is now enabling surgeons to take advantage of full depth perception and spatial orientation during intricate procedures with high clarity 3D images.

We remain dedicated to developing this breakthrough technology, bringing even greater clarity and precision to medical imaging in the pursuit of ever-more accurate diagnostics and surgical interventions.

### Delivering clear 3D Images for precise perceived depth and spatial orientation

Sony 3D technology represents a major breakthrough in medical precision and development, enabling surgeons to gain detailed insights and spatial orientation during complicated operations.

The delivery of pin-sharp images is achieved by combining our 3D technology with Sony advanced LCD displays. All our monitors undergo a multi-stage calibration process, which ensures a true-to-original reproduction of the object under examination. This is indispensable not only for high precision but also for uniformity between monitors.

Before shipping monitors, Sony Medical calibrates each individual panel to ensure that the RGB coordinates are identical. A further calibration ensures that the white balance has a consistent colour temperature across all greyscales.



BKM-30G 3D glasses

Sony 3D monitors process different 3D signal formats such as 3G-SDI, dual stream left and right and field mode, as well as Side-by-Side HD SDI and DVI-D line-interleave mode (line-by-line). The display can process numerous signals, ranging from practically all SD and HD video signals, to computer signals that are fed in via the DVI-D or HD15 connection.

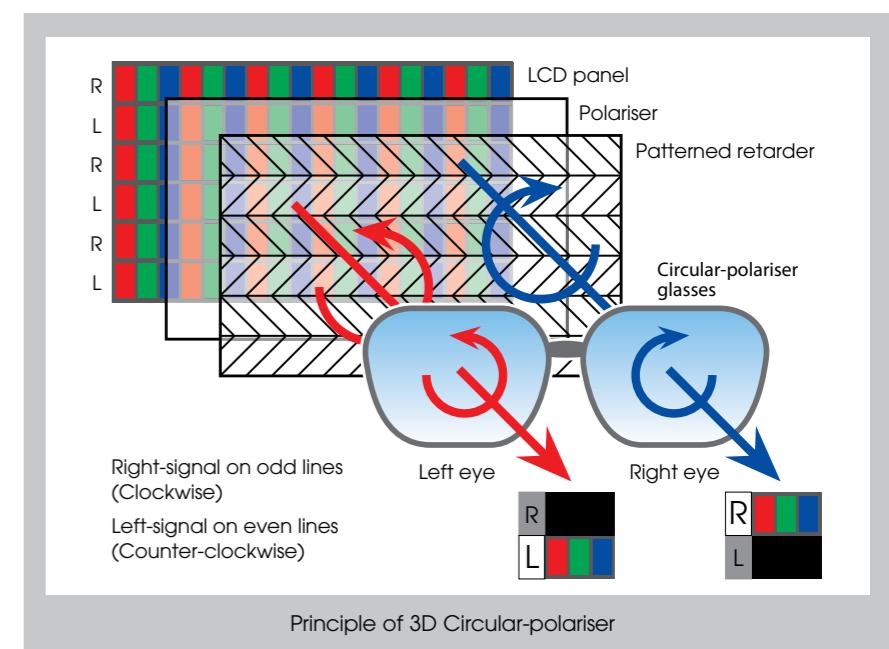
### Surgical certainty

User-defined storage, chroma phase control and ChromaTRU technology all optimise our monitors' images. These give the surgeon certainty that his hand movements are reproduced true to detail, even during complex procedures such as incisions and suturing.

With the aid of lightweight, easy-to-wear 3D polarisation glasses, users can also view several monitors seamlessly and without interruption.

To provide a three-dimensional image during surgery or for transmission for educational or in-service training purposes, users can attach two Sony PMW-10MD cameras to an operating microscope and show the images on compatible Sony 3D monitors, such as the LMD-4251TD.

To complete the 3D workflow, the Sony HVO-1000MD HD recorder can easily be combined with a 3D converter box to record outstanding 3D videos and stills. The HVO-1000MD is first and foremost a medical HD video recorder, but can also stream video material in 2D to conference rooms and lecture theatres. It outputs images in many different formats, such as Blu-ray and DVD, or for USB storage media.



Principle of 3D Circular-polariser

30	<b>3D</b>
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**LMD-2451MT****24 inch 3D Medical LCD Monitor****Suitable for Endoscopic Surgery, Conferences, Education, Training**

Currently, most of the 3D monitoring systems being used in medical modality applications are based on SD resolution. Users are unhappy with this level of 3D picture quality and the way it compromises the usability of conventional 3D monitoring systems for endoscopic surgery. With the introduction of the Sony Medical high-performance 3D LCD monitor LMD-2451MT, however, improved digital technologies for 3D monitoring – including HD resolution – are now available.

- Incorporates a circular-micro polariser filter attached to the LCD panel and is supplied with circular-polariser 3D glasses to deliver a stress-free viewing experience of natural depth, plus smooth, uninterrupted viewing of multiple monitors and flicker-free 3D images
- Optional BKM-250TG 3G-SDI input adaptor enables a variety of 3D display functions – Including Disparity Simulation, Checkerboard Display and L/R Switch – to support optimum 3D settings and adjustments
- 2D monitor functionality with features upper-compatible with those of Sony LMD-2450MD and LMD-2451MD medical monitors



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

**LMD-4251TD****42 inch 3D Medical LCD Monitor****Suitable for Endoscopic Surgery, Conferences, Education, Training**

This wide-screen 3D medical LCD monitor incorporates a micro-polariser filter attached to the LCD panel, and is supplied with lightweight circular polariser 3D glasses for stress-free, smooth and uninterrupted viewing of multiple monitors.

- WUXGA (1920 x 1080 pixels) LCD panel provides Full HD resolution images
- High purity colour filters ensure precise colours
- Optimised for group viewing with a very wide viewing angle
- 2D/3D functionality maximises ROI
- Future-proofed longevity with multi-format and HD capability, plus optional decoder boards

Product compliance  
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

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<b>3D</b>	31
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**HVO-1000MD****3D Medical Recorder****Suitable for: Video Recording, Streaming Video, Multi-format Content Distribution**

Every aspect of the HVO-1000MD is aimed at optimising critical time during medical procedures, whilst capturing outstanding 3D video and images. With its simple controls, it can record to multiple media formats simultaneously. By using a 3D converter box, the HVO-1000MD can record images Side-by-Side, which can then be displayed on the LMD-2451MT.

Although primarily a HD medical video recorder, the HVO-1000MD is also a multipurpose delivery device, capable of streaming video to conference rooms and lecture theatres, and distributing content on a wide range of recording formats – including Blu-ray.



Product compliance  
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

**PMW-10MD****3D Medical Camera****Suitable for: Surgical Microscopy**

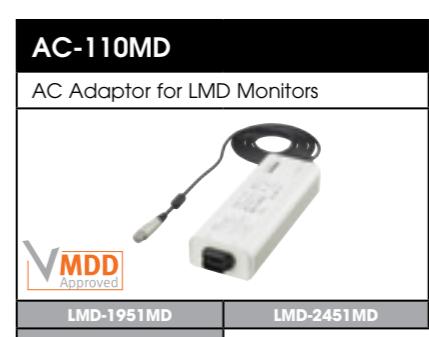
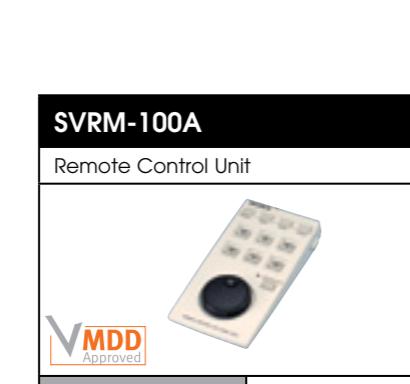
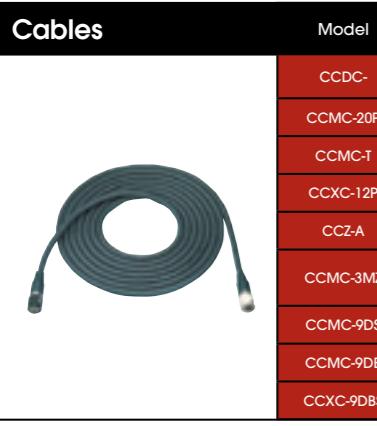
Delivering outstanding image quality, extremely long recording time and a range of advanced features, the PMW-10MD is an ideal medical camera that improves both image clarity and operational efficiency.

For 3D applications, two PMW-10MD cameras can be easily attached to microscopes to record precise image footage for the LMD-2451MT monitor. High quality images not only support surgical interventions, but are also beneficial to conference and education applications.

<b>3D</b>	3D
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# Accessories

## Accessories for Image Capture



UPT-M712BL	
Blue Thermal Mammography Film	
Contents: 125 sheets of print film	
Paper size: 253 x 304mm (10 x 12 inches)	
<b>Size: 10 x 12</b>	
<b>UP-DF750</b>	

UPT-M710BL	
Blue Thermal Mammography Film	
Contents: 125 sheets of print film	
Paper size: 202 x 253mm (8 x 10 inches)	
<b>Size: 8 x 10</b>	
<b>UP-DF750</b>	

UPT-517BL	
Blue Thermal Film	
Contents: 125 sheets of print film	
Paper size: 354 x 430mm (14 x 17 inches)	
<b>Size: 14 x 17</b>	<b>UP-DF500</b>
<b>UP-DF750</b>	<b>UP-DF550</b>

UPT-514BL	
Blue Thermal Film	
Contents: 125 sheets of print film	
Paper size: 279 x 354mm (11 x 14 inches)	
<b>Size: 11 x 14</b>	
<b>UP-DF750</b>	<b>UP-DF550</b>

UPT-512BL	
Blue Thermal Film	
Contents: 125 sheets of print film	
Paper size: 253 x 304mm (10 x 12 inches)	
<b>Size: 10 x 12</b>	
<b>UP-DF750</b>	<b>UP-DF550</b>

UPT-510BL	
Blue Thermal Film	
Contents: 125 sheets of print film	
Paper size: 202 x 253mm (8 x 10 inches)	
<b>Size: 8 x 10</b>	
<b>UP-DF750</b>	<b>UP-DF550</b>

UPT-736BL	
Blue Thermal Film	
Contents: 100 sheets of print film	
Paper size: 203 x 254mm (8 x 10 inches)	
<b>Size: 8 x 10</b>	
<b>UP-D74XRD</b>	

UPT-735BL	
Blue Thermal Film	
Contents: 100 sheets of print film	
Paper size: 203 x 254mm (8 x 10 inches)	
<b>Size: 8 x 10</b>	
<b>UP-D72XR</b>	

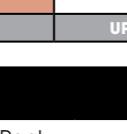
UPP-725	
Thermal Printing Paper	
Contents: 100 sheets of print media	
Paper size: 203 x 254mm (8 x 10 inches)	
<b>Size: 8 x 10</b>	
<b>UP-D74XRD</b>	<b>UP-D72XR</b>

UPC-R80MD	
Self-laminating Colour Printing Pack	
Contents: 2x 50 sheet print paper roll for 100 prints 2x ink ribbon	
Paper size: 210mm (W) x 16m	
<b>Size: A4</b>	
<b>UP-DR80MD</b>	

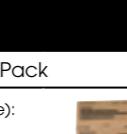
UPC-770	
Self-laminating Colour Printing Pack	
Contents: 72 sheets of print paper a roll of ink ribbon	
Paper size: 210 x 298mm (8 3/8 x 11 3/4 inches)	
<b>Size: A4</b>	
<b>UP-D77MD</b>	<b>UP-D75MD</b>

UPC-55	
Colour Printing Pack	
Contents: 200 sheets of print paper 2 rolls of ink ribbon	
Paper size: 144 x 100mm (5 3/4 x 4 inches)	
<b>Size: A5</b>	
<b>UP-D55</b>	<b>UP-55MD</b>

UPC-21S	
Colour Printing Pack	
Contents: 240 sheets of print paper 3 rolls of ink ribbon	
Paper size: 100 x 90mm (4 x 3 5/8 inches)	
<b>Size: A6</b>	
<b>UP-20</b>	<b>UP-21MD</b>
<b>UP-25MD</b>	<b>UP-D25MD</b>
<b>UP-D23MD</b>	

UPC-21L	
Colour Printing Pack	
Contents: 200 sheets of print paper 4 rolls of ink ribbon	
Paper size: 144 x 100mm (5 3/4 x 4 inches)	
<b>Size: A6</b>	
<b>UP-20</b>	<b>UP-21MD</b>
<b>UP-25MD</b>	<b>UP-D25MD</b>
<b>UP-D23MD</b>	

UPC-24SA	
Colour Printing Pack	
Contents (small size): 180 sheets of print paper (60 sheets x 3 packs)	
3 rolls of ink ribbon	
<b>Size: A6</b>	
<b>UP-25MD</b>	<b>UP-D25MD</b>

UPC-24LA	
Colour Printing Pack	
Contents (large size): 160 sheets of print paper (40 sheets x 4 packs)	
4 rolls of ink ribbon	
<b>Size: A6</b>	
<b>UP-25MD</b>	<b>UP-D25MD</b>

# Specifications

Specifications for Image Capture

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## Specifications for Image Capture

Colour Video Camera		
PMW-10MD		DXC-C33P
		
<b>System</b>		
Image device	3-chip 1/2 Inch Exmor CMOS	3 CCD 1/3 inch EXWAVE HAD Sensor
Effective picture elements	1920 x 1080	752 (H) x 582 (V)
Sensing area	4.8 (H) x 3.6 (V)mm	
Scanning system	1080i/50/159,94	2:1 interlaced, 625 TV lines
Horizontal frequency	15.625 kHz	
Vertical frequency	50Hz	
Sync system	External with BNC (x1)	Internal or external with VBS, HD/VD
Phase control	H/SC phase control	
Horizontal resolution	1000 TV lines	850 TV lines
Lens mount	C mount	C mount
Flange back	17.526mm	17.526mm
Sensitivity	F10 typical (in 1920 x 1080/59.94i mode)	
Minimum illumination	0.14 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain, with 64-frame slow shutter)	F8.0 at 2000 lx
S/N ratio	54 dB (Y) (typical)	61dB
Gain	0 to 21 dB	STEP/AGC/HYPER selectable, STEP: 0 to 24 dB by 1 dB step, AGC: 0 to 24 dB (limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable), HYPER: 30 dB
Shutter speed	60: 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000 50: 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	8.0 to 1/100,000 s
Electronic shutter	OFF/SPEED/ECS/SLS/EXSLS	OFF/STEP/VARIABLE/CCD IRIS/KNOB selectable
Iris	Manual	Manual
AE area	Multi/Large/Medium/Spot/Slit Selectable	Multi/Large/Medium/Spot/Slit/Manual selectable
AE speed	-99 to +99	Fast/Mid/Slow selectable
AE detect	Backlight, Standard, Spotlight	Average/Peak selectable
Contrast effect	Manual/DynaLatitude/DCC+ selectable	
Knee point	Auto, Point, Slope, Manual	High/Mid/Low/Off selectable (Contrast Effect: Manual)
Black stretch	Variable Black max / Black min	Variable (Contrast Effect: Manual)
Gamma	Variable	On/Off (Variable at ON)
Pedestal	Master, R/B Manual	Master and R/B Manual adjustable
Black balance	-99 to +99	ABB
White balance	Preset/Memory/ATW	AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable AWB or ATW R/B, paint, manual R/G gain
ATW area	Normal/manual selectable	Normal/Manual selectable
ATW speed	1(slow) -5(fast) selectable	Fast/Mid/Slow selectable
Detail level	-99 to +99	All/Target/Off (Variable at All or Target)
Detail frequency	-99 to +99	High/Mid/Low selectable
Linear matrix	All/Target/Off (Variable at All or Target)	
Linear matrix mode	ALL/Target/OFF>Select	Standard/R Enhance/G Enhance/B Enhance/Manual selectable
Partial enhance	-99 to +99, Type1-Type4	All/In/Out selectable
CCD integration mode	G-B, B-G, G-R, R-B, B-R	Field/Frame selectable
Shading compensation	Off/On (Manual control)	
Baud rate	Manual	19200/9600/4800/2400/1200 selectable
Sync	Up to 38400	RGB/G/Off selectable
Trigger	CMOS/ Open Collector ext Sync BNC	On (Positive edge trigger/Negative edge trigger)/Off
Strobe	Slave	
User file	Slave	A/B switchable
Scene file	Profile 1 - Profile 5 (selectable)	Standard/Microscope/Full Auto/Strobe/File A or B
Output signals	HD-SDI, Composite, S-Video (Y/C), Y/Pb/Pr, DVI-D programmable (via Profile 1-5)	VBS, RGB/SYNC, Y/C, i.LINK(DV)
Serial data	RS-232C	RS-232C
Connectors (on Camera Control Side)	Camera input: 36-pin (x1), MIC input: Stereo mini-jack (x1), Composite output: BNC (x1), S-Video output: mini DIN 4-pin (x1) Component output: D-Sub 15-pin (x1), DVI-D output: DVI connector 19-pin (x1), HD SDI output: BNC (x2), EXT SYNC input: BNC (x1), FS/TRIG IO: Stereo mini-jack (x1), Remote: D-sub 9-pin (x1)	DV OUT (6-pin jack), RGB/SYNC (9-pin D-sub) VIDEO OUT (BNC), S-VIDEO (4-pin mini DIN), FS/TRIG IN (Stereo Mini jack), REMOTE (8-pin mini DIN), AC Inlet, Camera (20-pin), EXT SYNC IN (BNC)
Measurements		
Dimensions	CHU : 35 x 45 x 50mm (1 7/16 x 1 13/16 x 2 inches) without projection CCU : 200 x 88 x 240mm (7 7/8 x 3 1/2 x 9 1/2 inches) without projection	CHU: 32 x 38 x 40mm (1 5/16 x 1 1/2 x 1 5/8 inches) CCU: 200 x 88 x 242mm (7 7/8 x 3 1/2 x 9 5/8 inches)
Mass	CHU : Approx. 90 g (3.2 oz) CCU : Approx. 2.8 kg (6 lb 3 oz)	CHU: 48 g (1.7 oz) CCU: 2.5 kg (5 lb 8 oz)
Power		
Requirements	AC 100 to 240 V, 50/60 Hz	AC 100 to 240 V, 50/60 Hz
Consumption	0.6-0.36 A (Max.30 W)	Max. 18 W
Operating conditions		
Temperature	0 to +40 °C (+32 to +104 °F)	-5 to 45°C (23 to 113°F)
Storage/Transporting conditions		
Temperature	-20°C to 60°C (-4°F to 140°F)	-20 to 60°C (-4 to 140°F)

Colour Video Camera		
DXC-390P		DXC-990P
		
<b>System</b>		
Image device	3 CCD 1/3 inch EXWAVE HAD Sensor	3 CCD 1/2 inch EXWAVE HAD Sensor
Effective picture elements	752 (H) x 582 (V)	
Sensing area	4.8 (H) x 3.6 (V)mm	6.4 (H) x 4.8 (V)mm
Scanning system	2:1 interlaced, 625 lines	
Horizontal frequency	15.625 kHz	
Vertical frequency	50Hz	
Sync system	Internal or external with VBS, HD/VD	
Phase control	H/SC phase control	
Horizontal resolution	800 TV lines	850 TV lines
Lens mount	C mount	Bayonet mount
Flange back	17.526mm	38.00mm
Sensitivity	F8.0 at 2000 lx	F11 at 2000 lx
Minimum illumination	4 lx (F2, GAIN: HYPER)	1 lx (F1.4, GAIN: HYPER)
S/N ratio	61dB	62 dB
Gain	STEP/AGC/HYPER selectable STEP: 0 to 24 dB by 1 dB step AGC: 0 to 24 dB (limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable) HYPER: 30 dB	STEP/AGC/HYPER selectable STEP: 0 to 24 dB by 1 dB step AGC: 0 to 24 dB (limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable) HYPER: 30 dB
Shutter speed	8.0 to 1/100,000 s	0.5 to 1/100,000 s
Electronic shutter	OFF/STEP/VARIABLE/CCD IRIS selectable	
Iris	Auto/Manual	
AE area	Multi/Large/Medium/Spot/Slit/Manual selectable	
AE speed	Fast/Mid/Slow selectable	
AE detect	Average/Peak selectable	
Contrast effect	Manual/DynaLatitude/DCC+ selectable	
Knee point	High/Mid/Low/Off selectable (Contrast Effect: Manual)	
Black stretch	Variable (Contrast Effect: Manual)	
Gamma	On/Off (Variable at ON)	
Pedestal	Master and R/B Manual	
Black balance	ABB	
White balance	AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable AWB or ATW R/B, paint, manual R/G gain	AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable AWB or ATW R/B, paint, manual R/G gain
ATW area	Normal/Manual selectable	Normal/Manual selectable
ATW speed	Fast/Mid/Slow selectable	
Detail level	All/Target/Off (Variable at All or Target)	
Detail frequency	High/Mid/Low selectable	
Linear matrix	All/Target/Off (Variable at All or Target)	
Linear matrix mode	Standard/R Enhance/G Enhance/B Enhance/Manual selectable	
Partial enhance	All/In/Out selectable	
CCD integration mode	Field/Frame selectable	
Shading compensation	Off/On (Manual control)	
Baud rate	19200/9600/4800/2400/1200 selectable	
Sync	RGB/G/Off selectable	
Trigger	On (Positive edge trigger/Negative edge trigger)/Off	
Strobe	Slave	
User file	A/B switchable	
Scene file	Standard/Microscope/Full Auto/Strobe/File A or B	
Output signals	VBS, RGB/SYNC, Y/C	VBS, RGB/SYNC, Y/C, Y/R-Y/B-Y
Serial data	RS-232C	RS-232C
Connectors		
	RGB/SYNC (9-pin D-sub), DC IN/VBS (12-pin), VIDEO OUT (BNC), TRIGGER IN (BNC), REMOTE (8-pin mini DIN), LENS (6-pin)	RGB/SYNC (9-pin D-sub), DC IN/VBS (12-pin), VIDEO OUT (BNC), TRIGGER IN (BNC), REMOTE (8-pin mini DIN), GEN LOCK IN (BNC), LENS (6-pin)
Measurements		
Dimensions	56 x 50 x 128mm (2 1/4 x 2 x 5 1/8 inches)	70 x 72 x 123.5mm (2 7/8 x 2 7/8 x 4 7/8 inches)
Mass	Approx. 370 g (13 oz)	Approx. 630 g (1 lb 6 oz)
Power		
Requirements	DC 10.5 to 15.0 V	
Consumption	Approx. 7.6 W	
Operating conditions		
Temperature	-5 to 45°C (23 to 113°F)	
Storage/Transporting conditions		
Temperature	-20 to 60°C (-4 to 140°F)	

DVD Recorder  
DVO-1000MD

## System

Recording system	DVD Recording, NTSC/PAL Switchable
Recording format	Video: MPEG-2 compression/Audio: Dolby Digital format
Recordable media	DVD+RW (2.4x and 4x speed)
Recording time	HQ Mode: 60 minutes/SP Mode: 120 minutes/LP Mode: 180 minutes
Safety standards	IEC60601-1, EN60601-1, UL60601-1, CAN/CSA C22.2 No.601.1
Input/Output	
Analogue composite input	BNC x2, with loop-through, unbalanced, 1.0 Vp-p, 75 Ω
S-video input	4-pin DIN x2, with loop-through, Y: 1.0 Vp-p, 75 Ω, unbalanced, C: 0.286 Vp-p (NTSC)/0.3 Vp-p (PAL), 75 Ω, unbalanced
Analogue composite output	BNC x1, 1.0±0.2 Vp-p, 75 Ω, unbalanced
S-video output	4-pin DIN x1 Y: 1.0 Vp-p, 75 Ω, unbalanced, C: 0.286 Vp-p (NTSC)/0.3 Vp-p (PAL), 75 Ω, unbalanced
Analogue audio input	RCA Pin x2 (L/R), 2 Vrms (full bit), input impedance 47 kΩ
Analogue audio output	RCA Pin x2 (L/R), 2 Vrms (full bit), load impedance 47 kΩ
Monitor audio output	Monitor RCA Pin x1, 2 Vrms (full bit), load impedance 47 kΩ
i.LINK (DV IN)	i.LINK 6-pin x1, IEEE1394
Remote control	RS-232C x1, D-sub 9-pin Remote1 x1, stereo mini jack (for connection with the optional SVRM-100A/DSRM-10 controllers) Remote2 x1, stereo mini jack (for connection with the optional FS-20 foot switch) USB 2.0 x1 (Full Speed)
Measurements	
Dimensions	212 x 128.5 x 382mm (8 3/8 x 5 x 15 inches)
Mass	6 kg (13 lb 4 oz)
Power	
Requirements	AC 100 V to 240 V, 50/60 Hz
Consumption	35 W
Operating conditions	
Temperature	+5 to +40°C (41 to 104°F)
Humidity	20 to 80%
Storage/Transporting conditions	
Temperature	-20 to +60°C (-13 to 140°F)

DICOM Capture Station  
BZMD-1000

## System

Product specification	2.16 GHz Intel Duo-Core II processor (T7400) 4 GB RAM 750 GB HDD Sony DVD/ CD/ Blu-ray drive 1280 x 1024 resolution 17-inch LCD panel (viewable area, measured diagonally) SAW (Surface Acoustic Wave) touchscreen Intel 945GM video chipset Sony BKB-8000 Digital Capture Card
Analogue video	RGB or YPbPr or Monochrome S-Video Composite
Digital video	DVI-D up to 1080p/60 SDI, SMPTE 259M up to 720 x 576 pixels (270 Mbps) HD-SDI, SMPTE 292M up to 1920 x 1080 pixels (1.45 Gbps)
Supported formats	NTSC, PAL and SECAM, Component RGB, Component YPbPr, Monochrome, S-Video, DVI-D single link, HD-SDI 1080i, 1280x1024, 1024x768, 800x600, 640x480
Audio	Stereo audio recording with MPEG-1 Layer II encoding at 16 bit/48 kHz resolution
Controls	6 trigger inputs 1 digital output
Measurements	
Dimensions	412 x 380 x 192mm (16.2 x 15 x 7.6 inches)
Mass	13.4 Kg (29.5 lbs)
Physical	
Cabinet	Powder coated stainless steel cabinet
Mounting	VESA 100 mounting
LCD	
Brightness	Minimum 300 cd/m
Contrast ratio	500:1
Resolution	1280 x 1024
Screen	17-inch (viewable area, measured diagonally) SAW (Surface Acoustic Wave) technology touchscreen
Connections	1 x BNC female connector for Composite or SDI or HD-SDI 1 x Mini-DIN 4-pin female connector for S-Video 1 x HD-15 female connector for RGB or YPbPr or Monochrome 1 x DVI-29-pin female connector for DVI single link (digital only) 1 x Stereo Mini-Jack for line level audio 1 x Stereo Mini-Jack for line level audio output 1 x Mini-DIN 9-pin female for General Purpose Input (GPI) trigger and digital output 1 x XLR male for power supply 4 x general USB and 1 x printer-only USB 1 x RJ45 10/100/1000 Mbps Ethernet 1 x VGA 15-pin female Output
Power	
Dimensions	208 x 82 x 50mm (8.17 x 3.23 x 1.96 inches)
Mass	0.96 Kg (2.2 lbs)
Input voltage	100-240 VAC 50-/60Hz
Consumption	150 W
Output voltages	19 VDC
Operating conditions	
Temperature	0 to 35° C (32 to 95° F)
Humidity	20 to 80%
Storage/Transporting conditions	
Temperature	-20 to 60°C (-4 to 140°F)
Humidity	10 to 90%
Digital Capture Card (Sony BKB-8000)	Input range: 0.5 Vpp to 1.0 Vpp Offset: -1.0V to 2.0V DC 8 bit gain, 8 bit black level, white balance, phase adjustment 75 Ohm termination AC coupled with DC restoration H and V sync input on RGB and YPbPr only Pixel rate up to 110 MHz Horizontal Frequency: 90 kHz Pixel Jitter: +0.5ns S/N Ratio: 47 dB Linearity: >99% Gain and Offset stability: 1% from 15 to 40°C A/D Conversion: 8 bits each of R, G, B (24 bits/pixel) 24 bits YPbPr Colour Formats: RGB 24, YCbCr 4:2:2, 8 bit monochrome Horizontal anti-aliasing filtering

40	Specifications for Recording Storage	41
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## HD Video Recorder

### HVO-1000MD



Recording devices	
Internal hard disk drive	320 GB
Blu-ray Disc/DVD drive (1)	Compatible media: BD-RE2.0, BD-R1.0, DVD-R

Input connectors	
S-Video in	Mini DIN 4-pin type (x1) Y: 1.0 Vp-p (75 Ω) Sync negative C (BURST): 0.286 Vp-p (75 Ω) (NTSC) C (BURST): 0.3 Vp-p (75 Ω) (PAL)
Video in	BNC (x1), Composite 1.0 Vp-p (75 Ω), Sync negative
DVI-D in	Receptacle (x1), TMDS 1 channel (single link)
RGB in	D-sub 15-pin (x1), 0.7 vpp-with sync on green G: 1.0 Vp-p 75 Ω
HD-SDI in	BNC (x1) SD: SMPTE259M compliant HD: SMPTE292M compliant 75 Ω
Audio line in	Stereo mini jack (x1) 1.4 Vrms (full bit), input impedance 10 k Ω or higher, unbalanced

Output connectors	
S-Video out	Mini DIN 4-pin type (x1) Y: 1.0 Vp-p (75 Ω) Sync negative C (BURST): 0.286 Vp-p (75 Ω) (NTSC) C (BURST): 0.3 Vp-p (75 Ω) (PAL)
Video out	BNC (x1), Composite, 1.0 Vp-p (75 Ω), Sync negative
DVI-D out	Receptacle (x1), TMDS 1 channel (single link)
HD-SDI out	BNC (x1), SD/HD 0.8 Vp-p 75 Ω
Audio out	Stereo mini jack (x1), 1.4 Vrms (full bit), load impedance 10 k Ω, unbalanced

Other interfaces	
USB	USB 2.0 (x4)
Network	RJ-45 (x1), 1000Base-T/100Base-TX
Remote RS 232C	D-sub 9-pin (x2)
Remote contact switch	Stereo mini jack (x4)
Remote monitor	RJ-45 type (x1)
Other	

Supplied accessories	Before Using this Unit (x1), CD-ROM (Instructions For Use, PROTOCOL MANUAL) (x1), Warranty booklet (x1), Infrared remote control unit (x1)
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General	
Power requirements	100V to 240V AC, 50 Hz/60 Hz
Input current	1.9 A to 0.8 A

Operating temperature	5 to 40° C (41 to 104° F)
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Operating humidity	20% to 80% (Maximum wet-bulb temperature: 30° C (86° F) (no condensation)
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Operating pressure	700 hPa to 1,040 hPa
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Temperature range for storage	-20° C to +60° C (-4° F to +140° F)
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Humidity range for storage (no condensation)	20% to 90% (maximum wet-bulb temperature: 30° C (86° F)
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Storage and transport pressure	700 hPa to 1,040 hPa
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Mass	8.4kg (18.5lb.)
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Dimensions	305 x 410 x 115.5mm (12 1/8 x 16 1/4 x 4 5/8 in.) including protrusions
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## LCD Monitor

### LMD-1530MD

### LMD-1951MD

### LMD-2110MD



#### Panel

LCD Panel Type	a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel	a-Si TFT Active Matrix LCD
Resolution	1280 x 768 pixels (WXGA)	1280 x 1024 pixels (SXGA)
Effective picture size (WxH)	334 x 200mm (13 1/4 x 7 7/8 inches)	376 x 301mm (14 7/8 x 11 7/8 inches)
Diagonal	390mm (15 3/8 inches)	481.84mm (19 inches)
Aspect	15:9	5:4
Viewing Angle	176°	178°
Input		170/160°, Typical.

RGB Component	BNC (x3) RGB: 0.7Vp-p +3dB (Sync on Green, 0.3Vp-p sync negative) Component: 0.7Vp-p (75% chrominance standard colour bar signal)	
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External Sync	BNC (x1)	
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Y/C	4-pinMiniDIN (x1) 1.0Vp-p +3dB sync negative Y:1.0Vp-p +3dB sync negative C: 0.268Vp-p + 3dB (NTSC burst signal level), 0.3Vp-p +3dB (PAL burst signal level) (Line A)	
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Composite	BNC (x1) 1.0Vp-p +3dB, sync negative (NTSC/PAL) (Line A)	
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SD/HD - SDI	SD-SDI with adaptor	Yes (x2 with optional board)
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Audio	Phono jack (x1) -5dBu >47KOhms	—
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Computer input		
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Analogue HD-15	—	D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: TTL level (polarity free, H/V separate sync)
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HDMI	HDMI input	—
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Output		
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RGB Component	BNC (x3) loop through with 75Ohms automatic terminal function	
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Y/C	4-pinMiniDIN (x1) loop through with 75 Ohms automatic terminal function	
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## LCD Monitor

PVM-2551MD



LMD-2451MD



LMD-3250MD



## Panel

LCD Panel Type	OLED	a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel
Resolution	1920 x 1080 pixels (Full HD)	1920 x 1200 pixels (WUXGA)
Effective picture size (WxH)	543.4 x 305.6mm (21 1/2 x 12 1/8 inches)	518 x 324mm (20 1/2 x 12 7/8 inches)
Diagonal	623.4mm (24 5/8 inches)	609mm (24 inches)
Aspect	16:9	16:10
Viewing Angle	89°/89°/89°/89° (typical) (up/down/left/right, contrast > 10:1)	178°

## Input

RGB Component	BNC type (x3), RGB: 0.7 Vp-p ±3 dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3 dB (75% chrominance standard colour bar signal)
External Sync	BNC (x1)
Y/C	4-pin Mini DIN x 1 Y: 1.0 Vp-p ±3 dB sync negative C: 0.286 Vp-p ±3 dB (NTSC burst signal level), 0.3 Vp-p ±3 dB (PAL burst signal level)
Composite	BNC (x1) 1.0 Vp-p ±3 dB, sync negative (NTSC/PAL)
SD/HD - SDI	Yes (x2 with optional board)

Computer Input	Yes (HD-SDI Board built in)
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Analogue HD-15	D-sub 15-pin (x1) R/G/B: 0.7 Vp-p, sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: TTL level (polarity free, H/V separate sync) Plug & Play function: corresponds to DDC2B	D-sub 15-pin R/G/B: 0.7 Vp-p sync positive (when G channel is sync negative, the internal sync can be used 0.3 Vp-p)
DVI-D	DVI-D (x1), TMDS single link	TMDS single link (x2 with optional board)

Output	TMDS single link (x2 with optional board)	TMDS single link
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RGB Component	BNC (x3) loop through with 75 Ohms automatic terminal function
Y/C	Mini-DIN 4-pin (x1), Loop-through, with 75 ohms automatic terminal function
Composite	BNC (x1) loop through with 75 Ohms automatic terminal function

Computer Output	BNC (x1) loop through with 75 Ohms automatic terminal function
DVI-D	TMDS single link (x1 with optional board)

Other	—
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Remote	Modular connector 8-pin (x1)	Parallel 8-pin modular Serial RS-232C 9-pin D-sub serial ETHERNET RJ-45
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Stand	Optional SU-560 100 x 100mm VESA mount	Optional SU32FWS 200 x 400mm VESA mount 100 x 300mm VESA mount
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Measurements	618.4 x 376 x 102.1mm (24 3/8 x 14 7/8 x 4 1/8 inches)	602 x 386 x 110mm (23 3/4 x 15 1/4 x 4 3/8 inches)	783 x 479 x 124mm (30 7/8 x 18 7/8 x 5 inches)
Mass	8.1 kg (17 lb 14 oz)	8.7Kg (with 2 x BKM-229X installed)	13.3Kg (when 2 x BKM-229X installed)

Power	—
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Requirements	AC 100V - 240V, 50/60Hz DC 24 V/5.0 A, 5 V/0.060 A	AC 100V - 240V, 50/60Hz DC 24V 3.5A; DC 5V 0.03A	AC 100V - 240V, 50/60Hz DC 24V 3.5A; DC 5V 0.06A
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Consumption	135W	115W	136W
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Operating conditions	—
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Temperature	0 to 35°C (32 to 95°F)	0 to 35°C (32 to 95°F)
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Humidity	30% to 85 % (no condensation)
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Storage conditions	—
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Temperature	-20 to +60°C (-4 to 140°F)
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Humidity	0 to 90 % (no condensation)
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Pressure	700 to 1060 hPa
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## LCD Monitors for General Purpose

FWD-S47H1



FWD-S42H1



## Panel

LCD Panel Type	47"	42"
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Resolution	1920 x 1080 pixels, Full HD
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Pixel pitch	0.54 x 0.54mm (1/46 x 1/46 inches)
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Picture size (H/V)	1,040 x 585mm (41 x 23 1/8 inches)
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Panel drive	RGB : 8 bit + FRC (Frame Rate Control), colour number : 1.06 billion
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Contrast ratio	1000:1 (typical)
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Brightness	700 cd/m <sup>2</sup> (typical)
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Viewing angle	178° (typical)
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Response time	9 ms (typical)
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Type	a-Si TFT Active Matrix LCD
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Colour system	NTSC, PAL, PAL-M, PAL-N, NTSC4.33, PAL60

3D LCD Monitors		
LMD-2451MT		LMD-4251TD
		
<b>Panel</b>		
LCD Panel Type	24"	42"
Resolution	1920 x 1200 pixels (WUXGA)	1920 x 1080 pixels, Full HD
Picture size (H/V)	518.4 x 324.0mm (20 1/2 x 12 7/8 inches)	
Aspect	16:10	
Viewing angle (3D)	50° at a viewing distance more than 300mm, crosstalk less than 7% (typical)	
Viewing angle (2D)	40° at a viewing distance more than 600mm, crosstalk less than 7% (typical)	
Colours	89°/89°/89° (typical) (up/down/left/right contrast > 10:1)	
Type	Type a-Si TFT Active Matrix LCD with an AR-coated protection panel	a-Si TFT Active Matrix LCD
<b>Input</b>		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ±3dB sync negative. C: 0.286 Vp-p ±3dB (NTSC burst signal level), 0.3 Vp-p ±3dB (PAL burst signal level)	
RGB, Component	BNC (x3) RGB: 0.7 Vp-p ±3dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3dB (75% chrominance standard colour bar signal)	
DVI-D	DVI-D (x1) TMDS single link	
HD15	D-sub 15-pin (x1) R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: Total level (polarity free, H/V separate sync) Plug & Play function: corresponds to DDC2B	
External Sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary	
Option slot	2 slots	
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)	
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)	
<b>Output</b>		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
Y/C	Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination	
RGB, Component	BNC (x3), Loop-through, with 75 ohms automatic termination	
External sync	BNC (x1), Loop-through, with 75 ohms automatic termination	
Audio monitor out	-	Phono jack (x2) (L, R)
Speaker (Built-in)	-	1.0 W + 1.0 W (stereo)
<b>Measurements</b>		
Dimensions	602.4 x 386.2 x 110mm (23 3/4 x 15 1/4 x 4 3/8 inches) (including projections)	1027 x 616 x 130mm (40 1/2 x 24 3/8 x 5 1/8 inches)
Mass (with options)	8.8 kg (19 lb 6.4 oz) (with 2 x BKM-250TG)	23.5 kg (51 lb 13 oz) (with 2 x BKM-229X)
<b>Power</b>		
Requirements	AC IN: 100 V to 240 V, 50/60 Hz, 1.53 A to 0.58 A	AC 100 V to 240 V, 50/60 Hz, 2.3 A to 1.1 A
Consumption	Maximum: approx. 136 W (with 2 x BKM-229X)	
<b>Operating conditions</b>		
Temperature	0°C to 35°C (32°F to 95°F) Recommended: 20°C to 30°C (68°F to 86°F)	
Humidity	30% to 85% (no condensation)	
<b>Storage/Transporting conditions</b>		
Temperature	-20°C to +60°C (-4°F to +140°F)	
Humidity	0% to 90% (no condensation)	
Pressure	700 hPa to 1060 hPa	

Digital Colour Printer		Colour Video Printer	Digital Colour Printer
UP-25MD		UP-D25MD	UP-DR80MD
			
<b>System</b>			
Printing system	Dye sublimation thermal transfer		Dye sublimation printing
Resolution	Approx. 423 dpi		Approx. 301 dpi
Gradations	8bit (256 levels) processing each for Yellow, Magenta, Cyan		
Picture elements	UP-21L/24LA: 2,100 x 1,600 dots UP-21S/24SA: 1,600 x 1,200 dots	UP-21L/24LA: 2,132 x 1,600 dots UP-21S/24SA: 1,600 x 1,260 dots	A4 size: UPC-R80MD: 3508 x 2470 dots
Picture area	UP-21L/24LA: 126.0 x 96.0mm (5 x 3 3/4 inches) UP-21S/24SA: 96.0 x 72.0mm (3 3/4 x 2 7/8 inches)	UP-21L/24LA: 127.9 x 96.0mm (5 1/8 x 3 3/4 inches) UP-21S/24SA: 96.0 x 75.6mm (3 3/4 x 3 inches)	A4 size: 202 x 287mm
Tray capacity	S Size tray: Max. 80 sheets L Size tray: Max 50 sheets		50 sheets
Printing time	L size: max. 50 sheets S size: max. 80 sheets		A4 size: Approx. 76 seconds
Inputs/outputs	Video, S-Video, RGB, SYNC, HDTV IN/OUT signals 1080/59.94i, 1080/50i (2:1 interlace) 720/59.94p, 720/50p (progressive)	Hi-Speed USB (USB 2.0)	
<b>Measurements</b>			
Dimensions	212 (W) x 98 (H) x 398 (D)mm, (8 3/8 x 3 7/8 x 15 5/8 inches)		Approx. 317(W) x 207(H) x 425(D)mm (12 1/2 (W) x 8 1/8 (H) x 16 3/4 (D) inches)
Mass	5.5 kg (12 lb 2 oz)	5.7 kg (12 lb 6 oz)	Approx. 11.5 kg (25.3 lbs)
Power			
Requirements	AC 100 V to 240 V, 50/60Hz		
Consumption	1.7 A to 1.0 A		100 to 120 V: Max.2.8 A / 220 to 240 V: Max.1.2 A
<b>Operating conditions</b>			
Temperature	5 °C to 35 °C (41 °F to 95 °F)		5 °C to 35 °C (41 °F to 95 °F)
Humidity	20% to 80% (non condensing)		
<b>Storage/Transporting conditions</b>			
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)		
Humidity	20% to 80% (non condensing)		
<b>Other</b>			
Supplied accessories	CD-ROM (1) (Printer Driver, Operating Instructions (PDF) 21 Languages), Before Using this Printer (1) (21 Languages), Paper Tray (1), Stopper (1), Paper Tray (1), Stopper (1), Cleaning Cartridge (1), USB Cable (1)	CD-ROM (1) (Operating Instructions (PDF) 21 Languages), Before Using this Printer (1) (21 Languages), Paper Tray (1), Stopper (1), Cleaning Cartridge (1), USB Cable (1)	Power Cable (1), USB cable (1), CD ROM (1), Paper holder (2), Cleaning ribbon (1), Before using this printer (1), Software license agreement

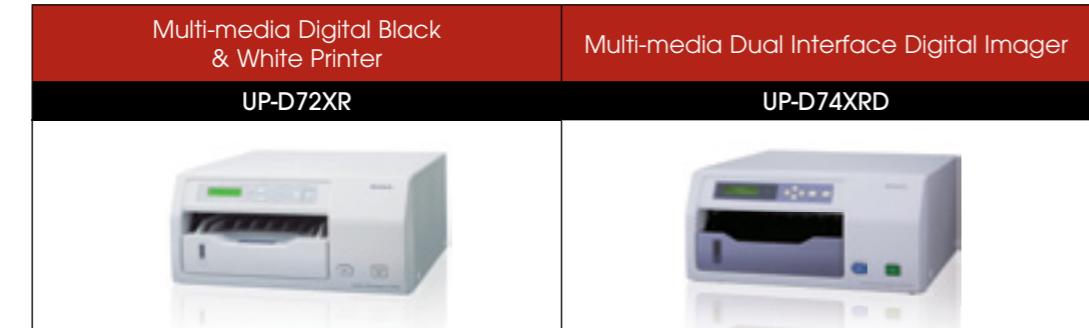
Colour Video Printer		Digital Colour Printer	
UP-55MD		UP-D55	
System		System	
Printing system	Dye sublimation printing	Printing system	Direct thermal printing
Resolution	Approx. 379 dpi	Resolution	325 dpi
Gradations	8 bits (256 levels) processing each for Yellow, Magenta and Cyan	Gradations	8-bit (256 levels) processing
Picture elements	2528 x 1920 pixels (full screen print)	Picture elements	(when "SC:WD1" is selected from "SCAN") EIA: 1210 x 490 pixels CCIR: 1210 x 582 pixels
Throughput	Approx. 20 seconds	Throughput	When "SP:H1" is selected from "SPEED" Approx. 2 seconds / image (at standard setting) When "SP:NOR" is selected from "SPEED" Approx. 3.3 seconds / image (at standard setting)
Tray capacity	Max. 100 sheets	Tray capacity	10 frames (800 k x 8 bits per frame)
Memory	8 frame memories	Memory	4096 x 1280 pixels (max.)
Control terminal	Remote 1 (special mini) for optional RM-5500 (discontinued) Remote 2 (stereo mini) for optional RM-91 RS-232C interface port (D-sub 25-pin) for external computer	Control terminal	High-speed mode Approx. 2 seconds / image (960 x 1280 pixels) Normal speed Approx. 3.3 seconds / image (960 x 1280 pixels)
Inputs/outputs	Video, S-Video, RGB, SYNC	Inputs/outputs	Hi-Speed USB (USB 2.0)
Measurements		Measurements	
Media size	A5 Size: 178 x 152mm (7 1/8 x 6 inches)	Media size	Paper width of 110mm
Dimensions	Approx. 280 x 125 x 398mm (11 1/8 x 5 x 15 3/4 inches) excluding the projection parts	Dimensions	320 x 100mm (max.) (12 5/8 x 4 inches)
Mass	Approx. 9 kg (19 lb 13 oz)	Mass	Approx. 2.6 kg (5 lb 11 oz)
Power		Power	
Requirements	AC 100 to 120 V, 50/60 Hz, AC 220 to 240 V, 50/60 Hz	Requirements	AC 100 to 240 V, 50/60 Hz
Consumption	100 to 120 V: Max.2.8 A / 220 to 240 V: Max.1.2 A	Consumption	1.5 A to 0.8 A
Operating conditions		Operating conditions	
Temperature	5 °C to 35 °C (41 °F to 95 °F)	Temperature	5 °C to 35 °C (41 °F to 95 °F)
Humidity	20% to 80% (non condensing)	Humidity	20% to 80%
Storage/Transporting conditions		Storage/Transporting conditions	
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Humidity	20% to 90% (non condensing)	Humidity	20% to 90%

Dual Interface Black & White Printer			
UP-970AD		UP-990AD	
System		System	
Printing system	Direct thermal printing	Printing system	Direct thermal printing
Resolution	325 dpi	Resolution	325 dpi
Gradations	8-bit (256 levels) processing	Gradations	8-bit (256 levels) processing
Picture elements	Digital: 3414 x 2560 pixels EIA: 1280 x 508 pixels CCIR: 1280 x 612 pixels	Picture elements	(when "SC:WD1" or "SC:NOR" is selected from "SCAN") When "S:STD" is selected from "SIDE" EIA: 94 x 73mm CCIR: 94 x 71mm When "S:SIDE" is selected from "SIDE" EIA: 124 x 96mm CCIR: 127 x 96mm
Throughput	Approx. 8 seconds / image (in standard mode)	Throughput	154 x 88 x 240mm (6 1/6 x 3 1/2 x 9 1/2 inches)
Tray capacity	25m (UPP-210HD and UPP-210SE)	Tray capacity	Mass
Memory	Digital mode: 3414 x 2560 pixels max. Analogue mode: 6 frames (800 k x 8 bits per frame)	Memory	Approx. 2.6 kg (5 lb 11 oz)
Inputs/outputs	Digital: Hi-Speed USB (USB 2.0), Analogue: Input connector: VIDEO IN (BNC type) EIA or CCIR composite video signals 1.0 Vp-p, 75 ohms/high-impedance (EIA/CCIR automatically discriminated), Output connector: VIDEO OUT (BNC type), EIA or CCIR composite video signals 0 Vp-p, 75 ohm loop-through/EE switchable, REMOTE connector: stereo mini jack	Inputs/outputs	Power
Measurements		Measurements	Requirements
Media Size	Paper width of 210mm	Media Size	AC 100 to 240 V, 50/60 Hz
Print size	When "S:STD" is selected from "SIDE" EIA: 187 x 140mm CCIR: 187 x 138mm When "S:SIDE" is selected from "SIDE" EIA: 249 x 188mm CCIR: 249 x 186mm	Print size	Consumption
Dimensions	316 x 132.5 x 305mm (12 1/2 x 5 1/4 x 12 1/8 inches)	Dimensions	Operating conditions
Mass	Approx. 8 kg (17 lb 10 oz)	Mass	Temperature
Power		Power	Temperature
Requirements	AC 100 to 240 V, 50/60 Hz	Requirements	5 °C to 35 °C (41 °F to 95 °F)
Consumption	2.4 A to 1.3 A	Consumption	Humidity
Operating conditions		Operating conditions	20% to 80%
Temperature	5 °C to 35 °C (41 °F to 95 °F)	Temperature	Storage/Transporting conditions
Humidity	20% to 80%	Humidity	Temperature
Storage/Transporting conditions		Storage/Transporting conditions	-20 °C to 60 °C (-4 °F to 140 °F)
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Temperature	Humidity
Humidity	20% to 80%	Humidity	20% to 90%

Black & White Video Printer		Digital Black & White Printer	
UP-897MD		UP-D897	
System		System	
Printing system	Direct thermal printing	Printing system	Direct thermal printing
Resolution	325 dpi	Resolution	325 dpi
Gradations	8-bit (256 levels) processing	Gradations	8-bit (256 levels) processing
Picture elements	(when "SC:WD1" is selected from "SCAN") EIA: 1210 x 490 pixels CCIR: 1210 x 582 pixels	Picture elements	(when "SC:WD1" or "SC:NOR" is selected from "SCAN") When "S:STD" is selected from "SIDE" EIA: 94 x 73mm CCIR: 94 x 71mm When "S:SIDE" is selected from "SIDE" EIA: 124 x 96mm CCIR: 127 x 96mm
Throughput	When "SP:H1" is selected from "SPEED" Approx. 2 seconds / image (at standard setting) When "SP:NOR" is selected from "SPEED" Approx. 3.3 seconds / image (at standard setting)	Throughput	High-speed mode Approx. 2 seconds / image (960 x 1280 pixels) Normal speed Approx. 3.3 seconds / image (960 x 1280 pixels)
Memory	10 frames (800 k x 8 bits per frame)	Memory	10 frames (800 k x 8 bits per frame)
Inputs/outputs	Input connector: VIDEO IN (BNC type) EIA or CCIR composite video signals 1.0 Vp-p, 75 ohms/high-impedance (EIA/CCIR automatically discriminated) Output connector: VIDEO OUT (BNC type) EIA or CCIR composite video signals 1.0 Vp-p, 75 ohm loop-through/EE switchable REMOTE connector: stereo mini jack	Inputs/outputs	Hi-Speed USB (USB 2.0)
Measurements		Measurements	
Media Size	Paper width of 110mm	Media Size	Paper width of 110mm
Print size	(when "SC:WD1" or "SC:NOR" is selected from "SCAN") When "S:STD" is selected from "SIDE" EIA: 94 x 73mm CCIR: 94 x 71mm When "S:SIDE" is selected from "SIDE" EIA: 124 x 96mm CCIR: 127 x 96mm	Print size	320 x 100mm (max.) (12 5/8 x 4 inches)
Dimensions	154 x 88 x 240mm (6 1/6 x 3 1/2 x 9 1/2 inches)	Dimensions	154 x 88 x 240mm (6 1/6 x 3 1/2 x 9 1/2 inches)
Mass	Approx. 2.6 kg (5 lb 11 oz)	Mass	Approx. 2.6 kg (5 lb 11 oz)
Power		Power	
Requirements	AC 100 to 240 V, 50/60 Hz	Requirements	AC 100 to 240 V, 50/60 Hz
Consumption	1.5 A to 0.8 A	Consumption	1.5 A to 0.8 A
Operating conditions		Operating conditions	
Temperature	5 °C to 35 °C (41 °F to 95 °F)	Temperature	5 °C to 35 °C (41 °F to 95 °F)
Humidity	20% to 80%	Humidity	20% to 80%
Storage/Transporting conditions		Storage/Transporting conditions	
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Humidity	20% to 90%	Humidity	20% to 90%

Dual Interface Black & White Printer			
UP-970AD		UP-990AD	
System		System	
Printing system	Direct thermal printing	Printing system	Direct thermal printing
Resolution	325 dpi	Resolution	325 dpi
Gradations	8-bit (256 levels) processing	Gradations	8-bit (256 levels) processing
Picture elements	Digital: 3414 x 2560 pixels EIA: 1280 x 508 pixels CCIR: 1280 x 612 pixels	Picture elements	(when "SC:WD1" or "SC:NOR" is selected from "SCAN") When "S:STD" is selected from "SIDE" EIA: 94 x 73mm CCIR: 94 x 71mm When "S:SIDE" is selected from "SIDE" EIA: 124 x 96mm CCIR: 127 x 96mm
Throughput	Approx. 8 seconds / image (in standard mode)	Throughput	154 x 88 x 240mm (6 1/6 x 3 1/2 x 9 1/2 inches)
Tray capacity	25m (UPP-210HD and UPP-210SE)	Tray capacity	Mass
Memory	Digital mode: 3414 x 2560 pixels max. Analogue mode: 6 frames (800 k x 8 bits per frame)	Memory	Approx. 2.6 kg (5 lb 11 oz)
Inputs/outputs	Digital: Hi-Speed USB (USB 2.0), Analogue: Input connector: VIDEO IN (BNC type) EIA or CCIR composite video signals 1.0 Vp-p, 75 ohms/high-impedance (EIA/CCIR automatically discriminated), Output connector: VIDEO OUT (BNC type), EIA or CCIR composite video signals 0 Vp-p, 75 ohm loop-through/EE switchable, REMOTE connector: stereo mini jack	Inputs/outputs	Power
Measurements		Measurements	Requirements
Media Size	Paper width of 210mm	Media Size	AC 100 to 240 V, 50/60 Hz
Print size	When "S:STD" is selected from "SIDE" EIA: 187 x 140mm CCIR: 187 x 138mm When "S:SIDE" is selected from "SIDE" EIA: 249 x 188mm CCIR: 249 x 186mm	Print size	Consumption
Dimensions	316 x 132.5 x 305mm (12 1/2 x 5 1/4 x 12 1/8 inches)	Dimensions	Operating conditions
Mass	Approx. 8 kg (17 lb 10 oz)	Mass	Temperature
Power		Power	Temperature
Requirements	AC 100 to 2		

Multi-media Digital Black & White Printer		Multi-media Dual Interface Digital Imager			
UP-D72XR		UP-D74XRD			
<b>System</b>					
Printing system	Direct Thermal Printing				
Resolution	300 dpi				
Gradations	512 grey levels (9 bit)				
Picture elements	2743 x 2320 pixels				
Throughput	Approx. 40 seconds				
Film supply tray	1 tray				
Tray capacity	Paper: 100 sheets / Film: 100 sheets				
Memory	16 MB				
Inputs/Outputs	USB connector x 1	DICOM port x 1 (RJ-45 modular jack) USB 2.0 connector x 1			
<b>Measurements</b>					
Print size	232.2 x 196.4mm (9 1/4 x 7 3/4 inches)				
Dimensions	412 x 210 x 431mm (16 1/4 x 8 3/8 x 17 inches)				
Mass	Approx. 15.5 kg (34 lb 3 oz)	Approx. 16kg (35 lb 3 oz)			
Power					
Requirements	AC 100 to 240 V, 50/60 Hz				
Consumption	Standby: 12.6 W (actual measurement) Black printing: 190 W (actual measurement) Max: 270 W				
Operating conditions					
Temperature	10 °C to 30 °C (50 °F to 86 °F)				
Humidity	20% to 80% (non-condensing)				
Storage/Transporting conditions					
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)				
Humidity	20% to 90% (non-condensing)				



Diagnostic Film Imagers	
UP-DF550	UP-DF750

System	
Printing system	Direct Thermal Printing
Resolution	320dpi
Gradations	12 bit processing
Picture elements	5232 x 4360 pixels (for 14 x 17 inch film)
Throughput	Approx. 64 sheets (per hour for 14 x 17 inch film) Approx. 85 sheets (per hour for 8 x 10 inch film)
Film supply tray	Two trays
Tray capacity	125 sheets (max.)
Maximum density	UPT-517BL UPT514BL UPT-512BL UPT-510BL: 3.2 UPT-M710BL UPT-M712BL: 3.8 UPT-517BL UPT514BL UPT-512BL UPT-510BL: 3.2
Inputs/outputs	DICOM port x 1 (RJ-45 Modular jack)
Measurements	
Media size	354 x 430mm (14 x 17 inches), 279 x 354mm (11x 14 inches), 253 x 304mm (10 x 12 inches), 202 x 253mm (8 x 10 inches)
Dimensions	600 x 316 x 686mm (23 5/8 x 12 1/2 x 27 1/8 inches)
Mass	Approx. 63 kg (138 lb 14 oz)
Power	Approx. 67 kg (147 lb 11 oz)
Requirements	AC 100 to 240 V, 50/60 Hz
Consumption	4.4 to 1.8 A
Operating conditions	
Temperature	10 °C to 30 °C (50 °F to 86 °F)
Humidity	20% to 80% (non-condensing)
Storage/Transporting conditions	
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Humidity	20% to 80% (non-condensing)

### DICOM Colour Printer

#### UP-D77MD



System	
Printing system	Dye transfer sublimation thermal printing
Resolution	300dpi
Gradations	over 16.7 million colours
Picture elements	3,208 x 2,400 dots
Throughput	Approx. 85 seconds (A4)
Paper supply tray	1 tray
Tray capacity	72 sheets (max.)
Inputs/outputs	DICOM port x 1 (RJ-45 modular jack)
Measurements	
Media size	A4: 210 x 297mm
Dimensions	Approx. 493.8 (W) x 176 (H) x 468.8 (D)mm / (19 1/2 (W) x 7 (H) x 18 1/2 (D) inches)
Mass	Approx. 21kg (46 lb 5 oz)
Power	
Requirements	AC 100-240 V, 50/60 Hz
Consumption	3.0 to 1.3 A
Operating conditions	
Temperature	10°C to 30°C (50°F to 86°F)
Humidity	20% to 80% (non-condensing)
Storage/Transporting conditions	
Temperature	-20 °C to 60 °C
Humidity	20% to 90% (non condensing)



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